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Edited by HENRY C. PEARSON—Office, No. 150 Nassau Street, NEW YORK.

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## LOOKING FROM FACTORY TO FOREST.

ON another page appears a communication from a rubber manufacturer who, in detailing some difficulties he has met in treating Congo rubbers, no doubt is recounting the experience of other manufacturers as well. At any rate, we regard his letter as worthy of general interest, and give space to it with a view to inducing further investigation, and as a basis for discussion which may lead to practical results.

It is significant of the broadening of the field of rubber investigation when a manufacturer at Montreal expresses concern about the methods of treating rubber *latex* on the river Lopori. To Mr. Goodyear rubber was rubber—very much as tin is tin. He did, indeed, speak in his book of "three varieties" of rubber, "among which there is a marked difference, although it is not, in the present stage of the manufacture, sufficient to cause any great difference in the quality of the goods made from them." And it is safe to say that in the generation of rubber manufacturers and factory superintendents who followed Mr. Goodyear, able and successful as many of them proved to be, there were very few who realized the great variety of characteristics of rubber, or to what such differences were really due. If, in what we may call the haphazard factory practice of their time, less satisfactory results were obtained from one lot of rubber than from another, it was most likely attributed to any other cause but bad methods, in some cases, in the coagulation of the rubber.

Even yet Congo rubber, still comparatively new to manufacturers, is often spoken of as it were one definite material, instead of which it is a surprisingly varied class of rubbers. By way of illustration, we may mention that the 513 tons of Congo rubbers offered at the September inscription sale at Antwerp were catalogued under no less than 31 commercial designations. It is true that in many cases these were geographical terms, and that rubber of the same character might have been offered under different names. But that there were wide differences in quality is indicated in another way. The rubber was catalogued under 81 lot numbers, with prices marked by the official broker, in advance of the sale, to show his estimation of the values, based upon the last public sales of similar rubber. Thirty-five different prices were marked, ranging from 3 francs to 11.45 francs per kilogram—i. e., from 26½ cents to \$1 per pound. Evidently, then, the designation "Congo rubber" covers a wider range of materials than can be expressed by "good, bad, and indifferent."

It remains to be considered whether the wide variations in Congo rubbers are legitimate, or unpreventable. In an article which we published just two years ago Monsieur van den Kerckhove, a Belgian expert, insisted upon the word *condition*, and not *quality*, in speaking of the apparent deterioration of certain Congo rubber sorts, and he did not hesitate to assert that "the greater part of the lots emanating from the Congo region are more or less tainted." In other words, the rubber suffered either from improper preparation, or in careless handling in transit, with the result that unnecessarily low prices were realized.



M. van den Kerckhove, who has lately returned from Africa, favors THE INDIA RUBBER WORLD this month with a report on the methods of rubber coagulation employed in the Congo region, from which it is plain that the character of the product must be sensibly affected by the process employed, as well as by proper care or the lack of it. The Congo rubbers are derived from several different trees and vines, with different inherent qualities, and not all susceptible to the same treatment. In the evolution of an article of rubber manufacture, therefore, the employment of right processes is no less essential in the African forest than in the factory at Montreal. And we believe that the next important development in connection with rubber will be in the preparation of the raw material—a work which will be greatly stimulated by the experiments now under way on plantations in Ceylon and elsewhere, which afford so much greater facilities for scientific study than any rubber camps now existent in tropical forests.

Meanwhile there is a profitable field for study in the factory laboratory, in comparing the behavior of rubber of differing conditions, as well as rubbers of different natural quality, under the same treatment, both for the present good of the manufacturer, and in order that the scientific culturist—and, later, the intelligent supervisor of forest rubber extraction—may be guided in producing just the grades of rubber required.

#### A "TIMOROUS" ASSOCIATION.

WRITING of the India-rubber Manufacturers' Association of Great Britain, *The India-Rubber Journal* remarks: "The Association has splendid work before it, but this we are afraid it will never accomplish until it has freed itself from the somewhat timorous spirit which seems to afflict its actions."

What is the matter with the Association? Our contemporary's indictment charges it with failing to recommend an advance in the selling prices of rubber goods "when-ever necessary," or, when such recommendation is made, with not inflicting penalties on "any small minority of its members" who may fail to respect it. In regard to the present situation the *Journal* remarks: "This delay on the part of the Association in recommending an increase has further aggravated the state of affairs in the rubber trade, for most of the trade outside of the Association were waiting for them to move before following their example."

But before making these assertions it happens that our contemporary, in the same article, feels called upon to state that "it has also been shown that the manufacturer who is last to increase the price of his manufactured rubber goods always does extra trade," and we infer from the context that every individual manufacturer must be the judge for himself whether this extra trade is likely to prove profitable or otherwise.

The same conditions obtain in England as elsewhere: Everybody in a given trade may feel that prices of goods are too low to yield adequate profits and ought to be advanced, but each manufacturer hesitates to make the first

move, lest some of his customers be driven away, to be captured by a competitor who adheres to the old price scale. And if, in spite of the manifold difficulties involved, a general agreement among competitors to advance prices should be reached, it is absolutely impossible for concerns of varying financial strength, and doing business under widely varying conditions, to long adhere strictly to the terms of the agreement. Suppose that "penalties" be inflicted upon the price cutters—that does not cover the whole ground. Who shall compensate a manufacturer, not financially strong, whose loss of trade by adhering to a rigid price agreement brings him to bankruptcy? This is the crucial test of every price agreement that ever was made.

But isn't it a little hard on the India-Rubber Manufacturers' Association to tax it with not working for the benefit of the outside competitors with its members? If they want prices advanced, and don't feel able to do it alone, it is open to them to join the Association, which then doubtless would feel in a stronger position, and more disposed to act. As matters stand, however, for the Association members to take the initiative in raising prices, with no obligation imposed on the outsiders, would be to create the situation known in the United States as "holding the umbrella over the other fellow;" the outsider would be able to do more trade, perhaps at better rates, while incurring no risk and none of the unpopularity that comes from putting up the prices of goods.

#### AN ENCYCLOPEDIA ARTICLE ON RUBBER.

IT is doubtful whether very many persons will buy the seventeen sumptuous volumes comprised in "The New International Encyclopedia" (New York: Dodd, Mead & Co., 1904) on account of its article on "Rubber," to which 2 pages are devoted, as against 7 pages to butterflies, 2½ to sharks, 8 to silk, 5 to shorthand, and 3 to "Unemployment." Yet these two pages will not fail to interest such persons as may desire to refresh their memories in regard to what they don't know about rubber. First, the derivation of the title word is interesting—thus:

Rubber (from *rub*; perhaps connected Gael. *rub*, Welsh *rhubio*, to rub; Ir. *ruboir*, Gael. *rhbaer*, a rubber), INDIA RUBBER or CAOUTCHOUC.

Now you know how this important article of commerce got its name. Rubber is referred to as being obtained from several species of trees, but no mention is made of rubber vines. These trees, it seems, are tapped, with the result that a peculiar sap flows out into small cups placed in position for the purpose. The material thus accumulated in these cups is emptied daily into a large vessel, in which it is allowed to smolder over a slow fire until the water is evaporated and the rubber shaped into cakes is ready for export.

This should prove interesting on the Amazon, particularly. Next attention is given to the subject of Vulcanization, of which we read:

Its effect is to render rubber elastic, impervious, and unchangeable in texture under all ordinary conditions.

In regard to the commercial use of rubber, it appears that—In 1852 a Boston sea captain imported into America 500 pairs of rubber boots which had been made by the natives of Brazil. These were readily sold for from \$3 to \$5 per pair, and a great demand for them



was created. During the next 15 years more than 1,000,000 pairs were sold.

It is not stated whether the use of rubber boots came to an end in 1867. Charles Goodyear is credited with important work in connection with rubber, through adopting Leudersdorf's discovery and acquiring the patent of Nathaniel Hayward, but the date of Goodyear's activity is not given. In England, Charles Macintosh (spelled in this book McIntosh) brought out a waterproof garment which is still known by his name. We learn that rubber is always plentiful, and that new sources of supply are frequently discovered. There has been a steady increase in the value of rubber imported into the United States, due in part to "the rise in price, which in 1900 was 63 cents per pound."

And this in a book printed in the summer of 1904! It is all very readable, but we cannot help thinking that the editors of the new encyclopedia might have saved themselves some labor by omitting the preparation of a special article on "Rubber." Their readers would have been benefited quite as much had they reproduced the account of rubber making given in Mr. Rodolphe Wyss's delectable romance, "The Swiss Family Robinson," the scene of which is laid in a desert island about 1800.

THE RUBBER INDUSTRY IN MASSACHUSETTS, having been long established, and become extensive and well organized, may well be taken as a criterion of the industry of the whole country, in any study of general conditions. On another page of this issue appears a tabulated comparison, for four years, of details reported in confidence, to a state office, from 47 factories—believed to comprise 80 per cent. of the rubber goods production in the state—from which it appears that a steady increase has been made in the value of products, as well as in the value of stock used, the number of wage earners employed, and in the amount of wages paid. If these identical conditions should prove true of the industry outside of Massachusetts, it would be a most satisfactory state of affairs, and we know of no reason for supposing that the rubber manufacturers elsewhere have been less successful. Certainly the steadily increasing imports of crude rubber into the United States indicate a corresponding increase in consumption, which has not all been confined to Massachusetts.

BOOTS AND SHOES FORM ONE ITEM of rubber goods production concerning which it is easier to obtain definite information from published official statistics than in regard to most other wares into which rubber enters. Without doubt footwear of this description is all the while coming into the wider use, but in the case of each of the European countries producing such goods the tendency is towards the supplying of the home demand by home factories. Some figures which we print this month indicate a gradual decline of imports of rubber footwear into Great Britain, and an increase in exports. Last month we presented some statistics of a similar nature relating to Austria-Hungary, and a like showing would be made by France and Germany. Our British correspondent this month also contributes a suggestion on the general subject. The one conclusion to be made is that the future of the export trade in rubber footwear of any country must depend upon the cultivation of a demand in non manufacturing countries, and in this connection it is of interest to note that Great Britain's exports of such goods to her own colonies increased from 46,340 dozen pairs in 1901 to 106,560 dozen pairs two years later. And last month we showed that Austria-Hungary's exports of rubber shoes to Turkey had increased nine fold during three years,

and to British India nearly three fold. Hong Kong took more than a half million pairs of British made rubber shoes last year, which more than three times the amount taken in 1901. Some of these increases, of course, have been at the expense of other exporting countries, but the facts stated all have a bearing upon the prospective importance of comparatively new markets for rubber shoes. In a broader sense, they relate to conditions which may have to be considered in connection with the rubber trade as a whole—the growing independence of each manufacturing country of foreign goods, and the necessity of seeking outlets for export in countries not provided with rubber factories.

#### EXPERIMENTS WITH CONGO RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: A friend of mine in the rubber business asked me to help solve a difficulty he had in curing some white goods in a mold; sometimes he would have no trouble whatever, and then without any apparent reason the goods would come out undercured.

We went over all the compounds; our first suspicions were directed towards the lime, but we found no trouble apparent there; afterwards we looked at the rubber, which was Lopori; the piece I saw was cut from a roll which has been ground down on the mill.

I believe the trouble was eliminated by changing the compound a little, but the point which interested me (and I have no doubt will interest you, inasmuch as I know many of your readers have had the same trouble) was that the trouble had occurred without any apparent reason; the compounds had not been changed, and as far as we could possibly determine no mistake had been made.

Since then I have come to the conclusion that the trouble was with the crude rubber; my conclusions are drawn from the following experiments:

First. I took some high grade Lopori, carefully selecting it, avoiding any of the gum which showed signs of having sweated. After mixing it with the compounds I cured it, and found the results quite satisfactory.

Second. I took some of the same lot of Lopori, including some of the sweated gum, treated it exactly the same; the results were not nearly as satisfactory. The binding of the mass was not good, and when stretched it broke short, whereas the first experiment did not.

Third. I took some gum which was sweated throughout (from the same lot); with the same treatment it showed a complete failure. It was not cured. It had turned a dirty color. I gave it a further curing—in fact I burnt it—but there were no signs of a correct or complete cure.

To me this was very interesting, as showing that sweated gum must not be used for this purpose—that you cannot judge gum after it has been ground on a mill.

I find further that a sweated rubber may be washed, dried, etc., and, after being ground, it will present a very good appearance, but after laying it aside for a month or two I find that a steady decomposition has taken place. It is not at once apparent. It still feels hard and looks all right, but test its elasticity and its deterioration is quite apparent.

Will you tell me, Mr. Editor, why the gathering of crude rubber on the Congo is not carried out in somewhat the same way as on the Amazon? It would seem that if a good red Upper Congo milk is cured in the same way as Pará, better results would be obtained. Yours truly,

A. D. THORNTON,

General Superintendent, The Canadian Rubber Co. of Montreal.  
Montreal, Canada September, 19, 1904.

## LITERATURE OF INDIA-RUBBER.

RUBBER, GUTTA-PERCHA, AND BALATA. BY FRANZ CLOUTH, COLOGNE. First English Translation. With Additions and Emendations by the Author. London: MacLaren & Sons. New York: D. Van Nostrand Co. 1903. [Cloth, 8vo. Pp. 243. Price, \$5.]

THIS work in its original form, under the title "Gummi, Guttapercha und Balata," was published in Leipsic some six years ago. The additions which have been made to it make it practically a new work. In his brief introduction Mr. Clouth says not a word about his long experience as a rubber manufacturer, or his careful researches—botanical, historic, or technical—but the English speaking trade know of him and have welcomed the rendering of his work into their language as enthusiastically as did his fellow countrymen the German edition.

The first 100 pages of the volume are devoted to the natural history of Caoutchouc. This is done very thoroughly, and the work is notably helped by the 18 botanical illustrations and a map showing the geographical distribution of rubber. There is a very complete tabular synopsis of plants yielding India-rubber, giving genus, species, synonyma, habitat, and local name. There is also a general description of the various processes employed in tapping and coagulating. Then come figures on the world's production of raw rubber, together with a chart of prices of rubber from 1861 to the present.

Following this is a valuable chapter on the chemical and physical properties of rubber, and then the reader reaches the part devoted to the manufacture of rubber goods. Beginning with soft rubber, there are valuable facts arranged in tabular form, covering the shrinkages of rubber after washing, as well as the resinous contents of a great variety of rubbers. Massing, calendering, and vulcanizing are described, and special attention is paid to a description of the manufacture of cut sheet. Mechanical rubber goods, boots and shoes, clothing, and general molded work next receive attention, after which hard rubber is treated. In a chapter on price cutting in the rubber trade this practice is very strongly condemned.

There are some 81 pages devoted to Gutta-percha and Balata, including botanical and statistical tables of value. The volume ends with a list of the principal articles made from India-rubber and Gutta-percha.

As Mr. Clouth is a practical rubber manufacturer, and by writing this book has in a measure taken the world into his confidence, one is a trifle disappointed to find no typical compounds, no processes of manufacture, and no new mechanical appliances that have come within the scope of his experience, but that would perhaps be asking too much. At all events, the book is a valuable addition to the literature of India-rubber and well worth the perusal of any one interested in the lines that it covers.

LIANES CAOUTCHOUTIFÈRES DE L'ÉTAT INDÉPENDANT DU Congo. Par É. De Wildeman et L. Gentil. - - - Bruxelles: 1904. [Cloth. Large 8vo. Pp. xvi+213+26 plates+map. Price, 25 francs.]

WITH the commercial development of the Congo Free State the world is familiar, but less attention has been attracted by the progress made in the scientific study of the natural resources of that region, liberally supported, as it has been, by the state, through a recognition of its ultimate utility. Indeed, the publications of the Congo state have been, to a very large extent, of a scientific character, and embrace much work entitled to the highest credit. The flora of the Congo has received particular attention, and its study has possessed special interest from the facts which have been revealed regarding the many rubber yielding species encountered.

The present work is devoted to nearly a score of *latex* yielding *lianes* (creepers, or vines), from which are derived the

greater proportion of the great volume of Caoutchouc exported from the Congo. By a study of the characteristics of the different plants may be obtained a better idea of the cause of the differences between rubbers from various tributaries of the Congo, and a basis is established for selecting the methods of coagulation best adapted for this or that locality. The present work, however, is no guide to rubber preparation, but a contribution to the proper classification of species, the text being supplemented by a large number of plates illustrating the flowers, leaves, and fruits of the different *lianes*, in natural size and natural colors, by means of which the plants may be recognized readily. Not all the plants described are of economic value, but it is no less important to know what species to avoid than to know what to "work" for rubber.

This monograph is of value, not only for the new facts embodied in it, but for the completeness and excellence of its compilation of knowledge which hitherto has been available, but only in countless scattered and fragmentary publications. The joint authors are both connected with the state botanical gardens at Brussels, besides which Dr. De Wildeman is a member of the faculty of the horticultural school at Vilvorde, and Mons. Gentil is a state forestry inspector in the Congo—the later position having been created with a view to the conservation of rubber resources. No other two botanists known to us are better equipped for collaboration on such a work, and it is difficult to point out how the work could have been done better. The mechanical production of the book has been in keeping with the results achieved by its authors.

UEBER HERKOMMEN UND CHEMIE DES KAUTSCHUKS. VON DR. Ed. Marckwald und Dr. Fritz Frank. Dresden: Steinkopff & Springer. 1904. [Paper. 8vo. Pp. 68. Price, 1.50 marks.]

A COLLECTION principally of memoranda found in the writings of the late Dr. Robert Henriques, whose laboratory was acquired by the gentlemen named on the title page. These notes have been rendered more complete by reference to the latest discoveries by Messrs. Weber, Harries and others, and thus brought down to date, the whole being arranged in two sections—botanical and chemical. The work is meant to be especially helpful in determining the technical value of the various grades of rubber, while the numerous references will guide those in search of further reading or study to the wider literature of the subject. These notes appeared originally in the *Gummi-Zeitung*.

IDENTIFICATION OF GUTTA-PERCHA AND ALLIED GUMS BY Means of Their Resins. By Wilton G. Berry. Reprinted from the *Journal of the Society of Chemical Industry*, New York Section, May 31, 1904. London: 1904. [16 mo. Pp. 8.]

A SYNOPSIS of this paper, the author of which is a chemist connected with the laboratory of the United States customs service, at New York appeared in THE INDIA RUBBER WORLD of June 1, 1904 [page 297].

## IN CURRENT PUBLICATIONS.

QUELQUES Plantes à Caoutchouc de l'Ouest de Madagascar. By Henri Jumelle. = *Revue des Cultures Coloniales*, Paris. XIV-146 (April 5, 1904). Pp. 200-201.

*Landolphia Thollonii* (Dewèvre) et *Landolphia Parnifolia* (K. Schumann). Contribution à la connaissance de l'origine du Caoutchouc des herbes. By Henry Hua. = *Revue des Cultures Coloniales*, Paris. XIV-142 (February 5, 1904). Pp. 65-79.

Le Caoutchoutier de Céara à Inhambane [Portuguese East Africa.] By Augusto Cardozo. = *Journal d'Agriculture Tropicale*, Paris. IV-32 (February 29, 1904). Pp. 33-40.

Méthodes Indigènes de Récolte et de Préparation de Différents Caoutchoucs du Congo. By É. De Wildman. = *Revue des Cultures Coloniales*, Paris. XIII-136 (November 5, 1903). Pp. 269-270.

*Ficus* Caoutchoucifères du Congo. By Émil De Wildman. = *Revue des Cultures Coloniales*, Paris. XIV-149 (May 20, 1904). Pp. 293-294.

## RUBBER COAGULATING METHODS IN CENTRAL AFRICA.

By Gustave van den Kerckhove (Brussels).

OF all rubber producing countries the Congo Free State without doubt offers the greatest variety in the way of coagulating *latex*. How many native systems are employed for coagulating the *latex* of the *Landolphia* vine, for instance, it would be hard to say, though at least six or seven general methods are in use. But every tribe, even every man of a tribe, has his own ideas about the preparation of rubber. This is the reason why every parcel and even every piece of a parcel of Congo rubber shows some difference from every other piece and parcel. For example, take a parcel of a few tons of white rubber ball ("Equateur"), and of the 50,000 to 60,000 pieces (mostly balls) of that parcel, no two are alike; some are small, some large, others adulterated, and so on. They show the character of the men who have prepared them, and a keen observer could even estimate approximately the age of the men by the size of the pieces. I do not believe that civilization in Central Africa has improved the quality of rubber, except in checking adulteration. It is well known that a savage negro from the interior may make better rubber than the coast native who has been "in touch with civilization," and this is not only so in the Congo, but in every African rubber producing district.

Of the different methods of coagulation which I shall now endeavor to describe, only one has been suggested or discovered by the white man. Not only is there a great variety in the way the native coagulates the *latex*, but in the different forms he gives to the rubber, viz.: Balls, cakes, slabs, bracelets, strips, cubes (thimbles), and so on. This, of course, is merely a question of fancy. Most of the Congo rubber is taken from the *Landolphia* vine, and the first method of curing the rubber—here mentioned because it is the oldest—is that known among the natives as the calabash system.

The native collects the milk in a calabash, in which a hole has been made at the bottom, some water being mixed with the *latex*. After 12 to 20 hours of rest, the *latex*, which has already reached a state of consistency, floats, and the water is poured out by opening the hole. The *latex* alone remains now in the calabash for a certain time, and is given whatever size or form the native fancies, when it is left to dry naturally, or sometimes

is slightly smoked. This method, in vogue among the natives of the Aruwimi, Itimbiri, Mongala, Kasai, and Kwilu districts, is fairly good, though the rubber has a tendency to ferment.

In some regions farther north the method employed is still more primitive. The *latex* is collected with a leaf and poured into any sort of receptacle—calabash, wooden jar, or iron pot—and is left to coagulate naturally, with the result that most of the rubber collected in this way is fermented, and even rotten. It is singular that such curing gives rubber of good elastic qualities, but the smell of the stuff is simply horrible.

The Kasai district natives use two different methods. For

instance, after the vine has been tapped they cover their bodies with the *latex* and return home. The water contained in the *latex* having by that time evaporated, the *latex*, which has then the appearance of rubber, is taken off and turned by hand into balls or twists. This method is also used by other natives of the upper Congo. Here is another method of the Kasai natives: The vine is bled and the next morning the *latex*, having become slightly coagulated in the open air along the branch of the vine, they take the rubber, winding it round their fingers or a small stick, making twists of ten balls per twist. This rubber, known under the name of "prime red Kasai," is one of the best African grades. The "prime black Kasai" is obtained by the boiling and smoking process, of which I shall say a few words further.

Now I come to a most important question about curing the *latex* of *Landolphia*—the process of coagulation with the Bosanga juice. The *Costus afer* (the "Bosanga" plant) has more the appearance of a reed than a tree. The coagu-

lating properties of its juice were discovered a few years ago in the Lopor district, and this method gives wonderful results, although it is very simple. A small percentage of Bosanga juice is mixed with the *latex* and, with his finger or a stick, the man stirs the liquid, the coagulation taking place almost instantly. After this, the *latex*, which now is a thick mass, is shaped into balls and left to dry in the shade or stored in a bungalow. It takes as a rule six to eight weeks for the rubber to dry enough for shipment to Europe. I think it most important to mention that the Bosanga juice coagulates *latex*



TAPPING "LANDOLPHIA" VINES.





RUBBER GATHERERS IN CAMP.

from vines only, and not from trees. Most of the Congo white rubbers are coagulated by this method. The Lopor grades, so well known among American manufacturers, are thus prepared, and also the Bussira, Lulonga, Ikelemba, Maringa, and some Mongala kinds. The official gardens at Eala (Equateur district) supply seeds of the Bosanga plant, which is also known by the natives as Bokako.

There has again been much talk lately about the "*Caoutchouc des herbes*," or root rubber, largely obtained from *Landolphia Thollonii*, and known to commerce as "thimbles." I shall not dwell at length on the peculiar characteristics of this plant, which has been described in THE INDIA RUBBER WORLD [See May 1, 1903—page 261]. The natives of the Kwango district, and also around Stanley Pool, where the *Landolphia Thollonii* is so plentiful, tear up the roots, and, after having cut them into pieces of about seven or eight inches, expose them under the sun, and afterwards plunge them into water. The whole is then beaten with sticks to separate the bark from the latex. After this operation has been repeated

several times, the mass still containing water and bark is boiled. After being dried it is shaped into large sheets, about  $\frac{1}{4}$  inch thick and these sheets or cakes, when dried still more are cut into small cubes, which take the name of "thimbles" on the European and American markets. These thimbles contain as a rule about 30 to 50 per cent. of bark. Many patented tools



RUBBER MADE INTO CAKES AFTER BOILING.



EQUATEUR RUBBER GATHERERS AT HOME.

or apparatus are offered for the extraction of the latex from the "*Caoutchouc des herbes*," but I am inclined to think that the native system is the best thus far put in operation.

Thus far most of the *Landolphia* vine latex of the district has been cured with the Bosanga juice, but lately some experiments have been undertaken in the Ikelemba region with a method similar to that of curing the *Hevea* rubber in Ceylon, this being the method previously referred to as having been introduced by white men. This system, which might be called the straining, pressing, and extra drying cure, has given rather good results, but in my opinion, it is likely to be adopted in methodical rubber plantations.

In some parts of the Congo, especially in the Kasai region, every piece of rubber is slightly smoked. Some tribes of the same region used to coagulate the latex with human urine.

In the way of curing rubber the native has certainly observed many things. I shall not attempt to settle the question whether he has himself discovered that smoke, on account of its antiseptic properties (creosote), tends to prevent oxidation, or that certain salts help the coagulation. It is quite true that their methods are primitive, but it is most astonishing to observe that with all his knowledge, his up-to-date tools, his use of chemistry, the white man has failed to prepare such good rubber here as the almost savage negroes of Central Africa. I have found this to be the case everywhere I have traveled in



RUBBER DRYING IN THE AIR.

Africa. I suppose the white man has not yet acquired what I shall call in French the *tour de main*.

Brussels, August 27, 1904.

\* \* \*

THE "BOSANGA" PLANT. COAGULATION OF "ROOT RUBBER."

THE above paper may appropriately be supplemented by some extracts from a new work by MM. De Wildman and Gentil ("Lianes Caoutchoutifères de l'État Indépendant du Congo." Brussels: 1904), a translation of which follows:

"The acid sap which the natives use for coagulating the rubber is furnished by a native plant, very common throughout the whole Congo territory, under the name of 'Bosanga,' 'Bosasanga,' or 'Bokako'; this sap possesses the acidity of sorrel. The 'Bosanga' is a plant attaining a maximum height of 1½ to 2 meters; its leaves are not attached to the stem opposite one another, but they run spirally around it. The fruit does not grow at the foot of the plant, as is still quite often stated, but at the crown; it is not long and red, but fleshy globular and greenish in color, and ripens from flowers which are always placed at the tip of the branches and which are of a beautiful pinkish white hue. This plant, the scientific name of which is *Costus Lucanusianus*,\* must not be confounded with another plant to which it bears some resemblance, which belongs to the genus *Amomum*, which does not have a sap possessing the quality of inducing coagulation.

"The natives use the following method for coagulating India-rubber with the 'Bosanga': While one man cuts off the Bosanga stalks, from which he removes the leaves, another holds a number of blades taken from the leaves of the banana tree over the fire, which makes them remarkably flexible. Then a small excavation is dug in the soil. In this the banana leaf is placed, and the latex poured into it. Three or four stalks of *Costus* are held together and twisted over the hole containing the latex, which, under the action of the acid sap, immediately coagulates. The native now, with his hands, molds the coagulated mass into a ball and then presses it firmly, this operation being repeated until all the watery content of the latex has been forced out.

\*This is not the same designation as given by M. van den Kerckhove, who gives the name *Costus afer* to the plant he has sketched for THE INDIA RUBBER WORLD, as illustrated on this page. There are, however, many different species of *Costus* in tropical Africa, and doubtless the juice of more than one of them is used in coagulating rubber.—THE EDITOR.

"In order to obtain the sap from the *Costus*, the native sometimes use a different process; he splits the stalk open and passes it between one of his fingers and the blade of his knife, allowing the sap of the plant to run into a receptacle, where it only needs to be slightly purified before it may be used for the coagulation of a correspondingly great quantity of latex.

"As we have stated above, the sap of the *Costus Lucanusianus* does not in any way act upon the latex of the *Clitandra*

*Arnoldiana* [a "root rubber" plant]. The natives use two different methods for coagulating the latter:

"1. By boiling the latex.

"2. By pouring the latex into boiling water.

"In using the first named process, the natives simply boil the latex, whereupon it begins to coagulate as soon as ebullition takes place; this method, however, is generally unadvisable, as the coagulated mass retains in its meshes a quantity of serum which is often



considerable in quantity, the albuminous parts of which may after a time make the rubber pitchy or sticky.

"In using the second of these methods, the Congo natives boil water and pour the latex which they have gathered into it, and it instantaneously coagulates. The first process gives an inferior quality of latex, sometime sticky; the second furnishes that beautiful black gum so much appreciated in commerce.

"After having obtained the coagulated mass by the second method, the natives cool the rubber by plunging it into cold water, afterwards strongly pressing the balls with their hands or feet between two leaves, in order to remove together with the water and the excess of serum, that portion of the latex which may not have coagulated."

THE Pennsylvania Rubber Co. (Jeannette, Pa.) have been awarded the contract for flooring the main rooms of the new Carnegie Library, at Pittsburgh, with their interlocking rubber tiling, of which 105,000 square feet will be required.



FOREST OF "LANDOLPHIA" VINES.



CARRYING RUBBER TO MARKET.

## INDIA-RUBBER GOODS IN COMMERCE.

## EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of July, 1904, and for the first seven months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July, 1904. ....	\$ 74,427	\$113,652	\$ 178,449	\$ 366,528
January-June .....	430,239	358,476	1,204,133	1,992,848
Total .....	\$504,666	\$472,128	\$1,382,582	\$2,359,376
Total, 1903....	474,684	341,792	1,459,954	2,276,430
Total, 1902....	386,105	355,002	1,116,558	1,857,755
Total, 1901....	351,649	291,356	1,073,822	1,716,827
Total, 1900....	317,726	251,525	861,627	1,430,878

## SEVEN MONTHS FOR LAST TWO YEARS COMPARED.

Gain in belting, packing, and hose.....	\$ 20,982	
Gain in boots and shoes.....	130,336	\$160,318
Loss in "All other rubber" .....		77,372
Net gain in seven months of 1904.....		\$ 82,946

## DOMINION OF CANADA.

THE figures which follow are derived from the unrevised monthly official statements for the fiscal year ended June 30, 1904. Comparative figures for preceding years are not given, for the reason that the latest figures are subject to revision, but former statistics may be found in THE INDIA RUBBER WORLD of January 1, 1904 (page 128). The first table relates to "Imports entered for consumption" of manufactures of India-rubber and Gutta-percha, and indicates a falling off from 1902-03:

IMPORTS.	United States.	Great Britain.	Other Countries.	Total Value.
Boots and shoes. ....	\$141,281	\$ 341	\$ 73	\$141,695
Belting.....	49,618	1,076	....	50,694
Clothing and water-proof cloth.....	44,808	314,585	1,453	360,846
Hose.....	47,404	919	117	48,440
Packing and mats....	49,395	1,392	67	50,854
All other.....	274,250	43,353	24,030	341,633
Total .....	\$506,756	\$361,666	\$25,740	\$894,162

Exports of Canadian rubber manufactures show a slight decline as compared with the preceding year, and the smallest figures since 1897-98. The distribution of rubber exports for 1903-04 was:

To Great Britain.....	\$39,378
" United States .....	9,994
" Australia.....	31,583
" Other countries.....	47,112
	\$128,067

## RAW MATERIALS.

THE returns embrace these details relating to crude India-rubber and allied details. Of the items mentioned, other than India-rubber and Gutta-percha, no matter how described, doubtless the greater part is reclaimed rubber, produced in the United States. The amount of India-rubber proper is greater than in any previous year, indicating a greater production of goods for home consumption:

CLASSIFICATION.	Pounds.	Value.
Gutta-percha.....	85	\$ 116
India-rubber .....	3,213,277	2,197,712
Rubber, recovered; rubber substitute, and hard rubber in sheets.....	2,133,437	277,770
Rubber powdered and rubber waste.....	406,489	36,570
Total, 1903-04.....	5,753,288	\$2,512,168
Total, 1902-03.....	5,404,124	1,820,054
Total, 1901-02.....	4,792,088	1,653,704

## GREAT BRITAIN AND IRELAND.

THE foreign trade of the United Kingdom in manufactures of India-rubber for the past five years, as shown by the official returns, has remained practically at a standstill, as will appear from this comparison of values—the figures not embracing waterproofed apparel:

	1899.	1900.	1901.	1902.	1903.
Exports..	£1,388,805	£1,423,464	£1,262,415	£1,224,444	£1,426,267
Imports..	691,805	712,081	689,227	779,373	677,743
Reexports	27,166	45,503	26,828	33,764	40,877

Formerly exports and imports of rubber goods were not classified, but it is now possible to make the following showing of values, classified under two headings, for the last three years:

	1901.	1902.	1903.
<b>Exports:</b>			
Boots and shoes.....	£ 176,387	£ 171,557	£ 224,586
Other sorts .....	1,086,028	1,052,887	1,201,681
<b>Imports:</b>			
Boots and shoes.....	£246,221	£288,832	£158,411
Other sorts .....	443,006	490,541	519,332

The statistics which follow relate to the division of British exports of rubber goods between foreign countries and British possessions, the figures indicating values:

	1901.	1902.	1903.
<b>Foreign:</b>			
Boots and shoes.....	£120,430	£104,755	£100,154
Other sorts.....	766,228	780,595	904,757
<b>British Possessions:</b>			
Boots and shoes.....	55,957	66,802	115,432
Other sorts.....	319,800	272,292	296,924
Total.....	£1,262,415	£1,224,444	£1,426,267

The fluctuations in the value of rubber goods exports of all kinds to the various countries are illustrated by the following table, dealing with seven countries which figure prominently in the list:

	1899.	1901.	1903.
France.....	£267,531	£248,739	£263,887
Germany.....	205,934	118,023	150,986
Belgium.....	130,011	115,625	106,716
Holland.....	74,688	45,167	76,477
United States.....	48,966	50,840	62,600
Argentina.....	23,438	15,438	24,684
Italy.....	25,994	10,363	22,566

## BRITISH FOREIGN TRADE IN RUBBER FOOTWEAR.

THE figures which follow relate to the imports and exports of rubber boots and shoes for three years in quantities—i.e., dozen pairs:

IMPORTS.			EXPORTS.		
1901.	1902.	1903.	1901.	1902.	1903.
151,806	144,365	62,216	United States.....	....	....
57,946	49,451	53,700	Germany.....	7,163	9,255
1,124	3,366	7,354	Holland.....	5,611	5,082
657	26	3,726	Belgium.....	15,829	18,684
10,344	10,701	3,604	France.....	26,026	24,177
....	....	....	Norway.....	7,671	7,046
....	....	....	Turkey.....	14,803	10,594
....	....	....	China.....	9,243	5,505
70	141	6	Other Foreign.....	5,398	3,452
7,244	12,045	4,748	Canada.....	46,340	59,833
....	....	....	Other Colonies.....	....	106,360
220,191	220,095	135,354	Total.....	138,084	143,628
				198,030	

## FOOTWEAR EXPORTS TO BRITISH COLONIES.

[In Dozen Pairs.]

	1901.	1902.	1903.
Cape of Good Hope.....	3,657	5,866	7,130
Natal.....	5,059	8,615	9,332
British East Indies.....	6,281	7,462	17,807
Hong Kong.....	13,705	14,420	45,802
Australia.....	9,605	15,362	18,866
New Zealand.....	2,215	5,059	2,765
British Guiana.....	3,528	1,565	3,207
Other British Possessions.....	2,290	1,484	1,391
Total.....	46,340	59,833	106,360



## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

**I**T would be harping on a worn string to say that universal grumbling exists about the high price of rubber and the uncertainty regarding its position from week to week; almost, one might say, from day to day. It is still the general thing to be told that the acuteness of the situation is

entirely due to the wicked Liverpool merchants, but those who loudly proclaim such opinions do not bring forward anything substantial in the way of proofs. No doubt those who can control themselves so as to make a judicial survey of the situation will be forced to the opinion that after all it is merely an ordinary case of supply and demand, and must perforce be put up with. However, despite the price of rubber, it is in no way the fact that the manufacture is paralyzed. Dullness is certainly reported, but at any rate as far as the north of England is concerned, this must be largely attributed to the short time in the cotton mills and to the depression in the engineering industry. There are no signs of material improvement in either of these in the near future, so the mechanical rubber trade in these markets is likely to remain quiet. In one respect the present price of rubber is playing an important part, and that is where it is customary at this season of the year to make special articles to stock for next season's demand. In certain cases, the details of which I do not consider it advisable to enter into, passivity instead of activity is ruling in marked contrast to what has been the general rule. It is a pretty safe assumption that the diminished profits on an increased turnover as shown in the report of the Leyland and Birmingham Rubber Co. [Given on another page of this paper.—THE EDITOR.] would be reflected in the balance sheets of other concerns both of greater and less magnitude if the accounts became public property, though it may be mentioned that there is considerable disparity between the methods adopted by different firms to increase their turnover. In some cases it is clear that little or no profit can accrue from transactions which bear a *prima facie* indication of good business. Looking at the situation broadly, it seems clear that a rise in the price of raw rubber affects the industry much less than would a similar contingency in other industries which come to mind. The principal users of rubber, among whom may be mentioned the railway and steamship companies, must have rubber, and although they may grumble somewhat at a rise in price, yet a few pence per pound in weight does not really represent much to them, and the orders come in as usual. It is not generally recognized by writers in the daily press what important customers shipbuilders and steamship companies are. A new battle ship, for instance, will absorb an amount of rubber which would, I imagine, rather surprise those who attribute the rise in price of rubber to the demands of the tire industry. The public judge by what they see, and one need not emphasize the fact that motor and cycle tires are more apparent than is the rubber in use on railways or on board ship. That the tire industry is absorbing an increasing amount of rubber is of course true, but it is fallacious to suppose that this demand is the sole important factor in the unique situation which is now being experienced.

THE practical article on this subject in the September issue of THE INDIA RUBBER WORLD will, I am sure, be read with much interest on this side, where the subject is attracting so much attention. Some makers

here seem to think that the poor quality of so many of the heels that are turned out will have the inevitable end of bringing them into discredit, and consequently of reducing the business. However, there is an increasing demand for good quality stuff, the price not being a matter of the first importance. The reference to the black heel that will not bloom is of interest; some good work of this kind is being turned out by The Hyde Rubber Works, Limited, their best black quality showing no tendency to bloom. This result, I understand, is due to a careful selection of materials, and not to the use of potash, as laid down in the article referred to. By the way, the term potash is a somewhat loose one; is it caustic potash, carbonate of potash, or what is known as American black ash, that is used? It is not particularly easy for the uninformed buyer to purchase potash that is not largely composed of soda. Potash, I may say, is but rarely used in England for desulphurizing purposes, though the goods subjected to it have a superior finish and feel than where caustic soda has been used. The idea of the black heel is of course that it may be indistinguishable from the rest of the boot to which it is attached. There are rather a confusing number of titles by which these heels are known on the market. In very few cases do these represent a patent. The middleman in the business merely selects some fancy name which is impressed on the goods to order by the manufacturer.

**I NOTICE** that a patent has recently been taken out by the Dental Manufacturing Co., Limited (London), with regard to the insertion of nickel gauze in the rubber sheet used in the artificial teeth business. The nickel gauze forms a thin layer in the interior of the rubber sheet. The use of metal for this purpose is not new, as I am informed by a dentist of repute that over twenty years ago it was customary to use platinum gauze in this connection. The use of nickel, however, may be new. Certainly at the present price of platinum, which is higher than that of gold, there is little inducement for its use by anyone but the chemist who cannot do without it. Nickel, on the other hand, is now produced in much larger quantities than formerly, and the reduction in price no doubt commends it for the purpose referred to.

**I AM** informed on what appears to be reliable authority that variations in the selling price of rubber solution are due to the employment by some makers of rosin as an adulterant. I use the word adulterant, because I am ignorant of any special advantages which this body can give to the solution. It may be that for some purposes, and when price is a desideratum, that the admixture may be perfectly justifiable, though I know that rosin is not used by the principal makers. It is not so many years since rubber solution was made and supplied by the rubber works alone; nowadays, however, what with the greater spread of knowledge and the difficulties concerning transport, the position has changed and there are now numerous makers of solution on a greater or less scale. Some make for their own use alone, others do a retail trade in it. The rubber of course comes from the rubber works, and it is the exception rather than the rule, as of old, to use fine Pará only. Cheaper brands of rubber are more generally bought, and as far as one can tell seem to answer the purpose well enough. One source of rubber for so-

RUBBER HEELS.

lution making is cut sheet waste, which seems to repay collection from the numerous small users of such in our industrial centers. As this sheet may contain small quantities of substitute, this latter body may enter into rubber solution quite unknown to the manufacturer thereof.

IN *Page's Magazine* for August appear some notes on electrical matters by Mr. E. Kilburn Scott, M. I. E. E. He draws

A MAGAZINE  
REFERENCE.

attention to the fact that faults in cables have been traced to impurities—dust, grit, etc.—which have evidently got incorporated with the rubber during the manufacture of the cable. He enjoins on the manufacturers greater carefulness to prevent this occurring, and instances as commendatory the action of the St. Helens Cable Co. (Warrington) in lining their roofs with Uralite—a substance which has a smooth surface and is moreover fireproof. From my own knowledge I can testify to the lack of attention to this point often displayed by rubber manufacturers, a whitewashed ceiling, for instance, being very liable to crack and deposit gritty particles in the rubber. The maintenance of an equable temperature all the year round in cable manufacturing is also advocated as conducive to good work. So far I agree with the author, but where I fail to follow him is in his reference to the special suitability of Lancashire for cable manufacturing. Whether or not the bulk of the cable made in the future will come from Lancashire is a speculative matter in which any one is entitled to speak, but it is strange to hear that as in cotton spinning the humidity of Lancashire renders it peculiarly suitable for cable making. Leaving the ordinary rubber cable out of account, it is certain that as far as dry core telephone cables are concerned the exact opposite is the case. It is incorrect to say that these cannot be made in Lancashire as well as in America, for they are now being made in quantity, but the humid climate is a drawback which has to be specially guarded against. It is this very moisture in the Lancashire air that gives it an advantage over New York in cotton spinning, and it is somewhat startling to hear that moisture generally considered the bug bear of insulation, is to be looked upon as positively advantageous.

MORE is heard at the present time of companies for rubber planting than of efforts to increase the supply from natural sources. In Peru it seems that there is plenty of untouched forest land which awaits the enterprise of the capitalist. I have before me, derived from an official source, the prospectus of a company entitled *Compañía Seleccionadora de Minas y Gomas del Perú*, with a capital of £20,000, the stated objects of which are the introduction of capitalists to the owner of mineral properties and rubber plantations, and the carrying out of pioneer work in the furtherance of mining and rubber production. The *personnel* of the board invites confidence in the *bona fides* of the concern, which deals with a country undoubtedly rich in both minerals and rubber. Anyone interested can no doubt obtain details by applying to the office, which is at Bodegonos 341 (altos), Lima, Peru.

#### A DIGRESSION TO GERMANY.

THIS firm, with which is incorporated the Harburg Gummikamm Co., occupies an imposing block of buildings in close contiguity to the Hanover station at Hamburg, and has in recent years been largely extended. Founded in 1836, they have ever since held the position of the largest manufacturers of vulcanite goods in Europe. It is, I understand, the intention of the firm to hold a special jubilee in 1906, on which occasion full details of the rise and progress of the concern will be available for those interested. Fifteen hundred men are employed,

the manufactures being limited solely to vulcanite goods. In my walk through the offices, warerooms, etc., under the conductorship of Dr. F. A. Traun, I was much interested in the rubber museum, which I imagine must be one of the most complete in existence. The senior partner has spared no trouble or expense in obtaining specimens of known brands of rubber, and especially is the collection rich in the shoes, toys, etc., of pure Pará rubber, in which form the substance used to come to Europe in the very early days of its export from South America. I imagine that such specimens must now be almost of the scarcity, though probably not the market value, of the eggs of the Great Auk. Compared with what obtains in England, there is a much greater demand for vulcanite vessels and implements in the chemical manufacture in Germany. This is largely because the manufacture of fine chemicals for pharmacy, photography, and so on has not attained to any great proportions in England, but still there are many uses to which vulcanite goods can be usefully put in the heavy chemical manufacture which at present seem imperfectly known to those who might profit by their application. I gather that at present the London house of Messrs. Traun, which is situated in Red Cross Street, E. C., draws the bulk of its business from the electrical industry, the Silvertown company being the principal home competitor. In the vulcanite comb business, of course, the more recent competition of the Scottish Vulcanite Co. has had to be met, but taking the vulcanite industry all round, a glance at the works and the products of the firm under notice makes it clear that in this branch of the rubber trade the British cannot, as in other branches, lay claim to being in the very front rank.

THIS great company, whose works are situated about five miles from Hamburg, is too well known to call for any specific reference; indeed it is not many months since reference to its finances and products was made in this Journal. Mr. Hartman, one of the procurists for the company, gave me to understand that the one absorbing topic of interest to the trade was the abnormally high price of rubber. With regard to the Austrian *cartel*, in which they were interested by reason of their Wimpassing factory, he thought there was no reason to apprehend any difficulty on account of the comparatively few rubber works in Austria—fifteen altogether, I think he mentioned. In the case of Germany, with about fifty works, and also about another fifty small establishments where the rubber manufacture in some form or other was carried on, he said it would be hopeless to attempt any such combination. With regard to the progress made by the Scandinavian rubber footwear factories, he put it down largely to their protective duties. The Swedish duty is now 120 *krone* (18 *krone*=£1 sterling) per 100 kilos on rubber boots and shoes. The German duty at the present time is 60 marks, though negotiations are on foot which will result in all probability in this being raised to 100 marks per 100 kilos. I understand that at present the imports of German rubber shoes into Norway and Sweden have declined into insignificance, and a rise in the German duty can hardly prove more than a retaliatory measure.

THE Hannoversche Gummikamm Compagnie, Aktiengesellschaft (the Hanover Rubber Co., Hanover-Limmer, Germany), who, in addition to their extensive line of hard and soft rubber goods, have been successfully marketing motor, cycle, and vehicle tires on the Continent, announce arrangements for entering the tire trade extensively in Great Britain, now that the leading Dunlop tire patents have expired. The Hanover company have long maintained a selling branch in London.

DR. HEINRICH TRAUN  
& SONS.

PERUVIAN  
RUBBER.

## RUBBER PLANTING AND EXPLOITATION.

## THE OHIO RUBBER CULTURE CO.

[Plantation near Coatzacoalcas, canton of Manititlan, state of Vera Cruz, Mexico. Office: Canton, Ohio.]

**I**NCORPORATED August 27, 1904, under New Jersey laws, with a capital stock of \$275,000 and an authorized bond issue for improvement purposes of \$2,250,000. The company own 3671 acres of carefully selected rubber land on the isthmus of Tehuantepec, adjoining the property of the Tehuantepec Rubber Culture Co. (New York). The company's land is located on the Coatzacoalcas river, tributary to the Coatzacoalcas, and but five hours by boat from the Gulf. They propose to plant and cultivate 1,000,000 rubber trees and by October 1 expect to be ready to offer their securities to the public. The following officers were elected to serve a term of one year: William L. Davis, president; L. E. Sisler, vice president; Henry C. Eyman, second vice president; Hon. John B. Mosby, third vice president; Grant S. Pike, secretary and treasurer; T. Frank O'Brien, assistant secretary.

## THE TROPICAL DEVELOPMENT CO.

[Plantation "Monta Rosa," near Playa Vicente, district of Tuxtepec, state of Oaxaca, Mexico. Office: Canton, Ohio.]

INCORPORATED under Ohio laws, August 00, 1904. Have acquired 11,000 acres in Oaxaca, on the north bank of the Playa Vicente river, nine miles west of the town of Playa Vicente. It is intended to plant rubber extensively, and also sugar cane, and other tropical staples, and also to devote a liberal area to pasturage. A sugar mill is to be installed. The plantation manager, I. N. Kinney, has been for some time superintending the erection of buildings of lumber shipped from New Orleans. The officers and directors are business men of Canton and neighboring towns in Ohio. J. E. Carnahan, a steel manufacturer, is president; Atlee Pomereine, an attorney, treasurer; and A. S. Griffin, secretary of a steel corporation, secretary.

## THE OAXACA ASSOCIATION.

[Plantation: Buena Vista, canton of Acayucan, state of Vera Cruz, Mexico. Office: Royal Insurance building, Chicago, Illinois.]

The latest inventory of this company, of date of April 30, 1904, shows the following number of rubber trees growing, at different ages:

7 years.....	1,200	4 years.....	18,000	1 year.....	60,000
6 years.....	1,200	3 years.....	53,500		
5 years.....	13,500	2 years.....	388,600	Total.....	535,400

These are valued in the company's balance sheet at \$173,840. The company have also 231,900 coffee trees, of ages from 2 to 8 years, the latter of which have yielded fine crops.

## CHIAPAS RUBBER PLANTATION CO.

[Plantation "San Luis," near Palenque, department of Palenque, state of Chiapas, Mexico. Offices: Crocker building, San Francisco.]

[See THE INDIA RUBBER WORLD, March 1, 1904—page 185.]

The annual election, early in August, resulted in the election of George T. Hawley as president, succeeding L. H. Bonestell. Mr. Hawley was formerly a vice president, together with L. S. Sherman and E. A. Girvin. There are now only two vice presidents, Mr. Sherman being elected as first and Mr. Girvin as second. The following were reelected: F. F. Bostwick, secretary; Charles Fredericks, treasurer; C. A. Westenberg, managing director. The remaining directors are Messrs. Field, Shreve, Winn and Washburne. The shareholders selected Dr. P. R. Watts, of Sacramento, California, to make the annual inspection of the plantation, which he will visit in October. Work

on the plantation is reported to be progressing satisfactorily, the monthly disbursements for some time past having averaged \$20,000, Mexican.

## RUBBER PLANTING IN NICARAGUA.

AMONG the rubber plantations owned in the United States and located in Nicaragua is one of about 15,000 four year old trees, on a tract of 252 acres, situated 21 miles north of Bluefields, near Cukra Landing, on one of the many lagoons along that coast. It is owned by a small group of citizens of Memphis, Tennessee, organized as The Memphis Tropical Fruit and Rubber Co., of which Dr. H. T. Lynch is secretary. The plantation was formed by a former owner of the land, and was purchased as a result of a visit which Dr. Lynch made to Nicaragua for the purpose of investigating rubber culture. He informs THE INDIA RUBBER WORLD that the trees on this property are in first class condition, and he is encouraged at the prospects of rubber culture in Nicaragua. The resident manager of the property is D. H. McCullough, a Memphis man.

## CEARA RUBBER IN MYSORE (INDIA).

THE superintendent of the government gardens in the native state of Mysore publishes in the *Mysore Gazette* a note on the growth in that region of the Ceara rubber tree (*Manihot Glasiovii*), the prospects for which he regards as highly encouraging. It appears that from the beginning the tree grew finely in Mysore, but that the tapping in the earlier years yielded most unsatisfactory results. With increased age, however, a liberal yield has been attained. It is asserted that one tree in the government gardens, 16 years old, tapped on 83 days last year gave 7 pounds of dry rubber, estimated by a London broker to be worth 3 shillings a pound, or a total of 21 shillings [= \$5.11]. Considerable planting has been done, and the superintendent above quoted recommends further planting.

## A NEW COMPANY TO EXPLOIT RUBBER IN PERU.

THE Carabaya Rubber and Navigation Co. was incorporated August 4, 1904, under Maine laws, with \$2,000,000 capital authorized, for the purpose of exploiting rubber and mineral resources, and conducting incidentally a transportation business, in southeastern Peru. The company is to acquire a large area of rubber lands lying in the province of Carabaya. The land is traversed by the river Inambari, and is within a practical working distance of the railway which extends from Molendo, on the Pacific coast, to the city of Cuzco. It is estimated that the lands which the company itself will hold contain at least 1,200,000 rubber trees of mature size, and some 30,000 of these have already been tapped. The first purpose of the company will be to open up as rapidly as possibly the rubber trees and collect the product and ship. The company expects at once to place a small steamer on the Inambari river and collect the rubber which may be obtained by tappers on properties other than their own along the Inambari and Madre de Dios rivers, paying for them in food and other supplies which the steamer will take along with it. The road which the company controls to their property and to the Inambari river makes the shortest and most inexpensive route to take rubber from these rich forests to the market. The following are the officers of the company: Hon. James A. Roberts, former state comptroller of New York, president; Dr. C. S. Merrill, of Albany, New York, vice president; H. D. Selleck, secretary; Frank Squier, president of the Queens County Trust Co.,



treasurer. The remaining directors are Hon. Warner Miller, former United States senator for New York, and William N. Ingraham, of Portland, Maine, and also José Pardo, recently elected president of Peru, and Juan Pardo, an engineer of high repute in that country. The offices of the company for the present will be at No. 256 Broadway, New York. The company has secured the services of J. Austin Pharaoh as general manager. He has been for several years past engaged in the successful exploitation of rubber in Bolivia and Peru. The section of Peru where the company's lands are located has long been known as rich in trees capable of yielding rubber of high grades.

#### A BOLIVIAN RUBBER COMPANY OUT OF THE FIELD.

THE Bolivian Rubber Co. of Baltimore, mentioned in the issue of this Journal for April 1, 1903 [page 226] as having been organized to acquire and develop certain important rubber concessions in Bolivia, was based upon the investment made by Henry A. Parr, a one time wealthy merchant of Baltimore, Maryland. It appears that, under the terms of the agreement with the vendors of the rubber properties involved, the company began work under an option and exported considerable rubber via Mollendo. The purchase of the properties, however, was never completed, owing to business embarrassments which overtook Mr. Parr, and the company above named has ceased to exist. It is understood that the rubber properties, however, continue to be worked by the *cessionnaires* from whom Mr. Parr's company planned to buy them.

#### RUBBER AT THE KUALA LUMPUR SHOW.

THE yearly Agri-Horticultural show of the Federated Malay States was opened on August 8, at Kuala Lumpur, by the governor, Sir John Anderson, K. C. M. G., in the presence of a large attendance. After the opening ceremonies, and the official party had partaken of *tiffin*, the *Straits Times* reports that "the party witnessed an exhibition of the process of preparing rubber. The process was carried out by Mr. P. J. Burgess, the government analyst from Singapore, on a machine specially manufactured by the Federated Engineering Co., of Kuala Lumpur. The rubber went in in sleek slabs of coagulated latex, only to emerge later in a lacerated condition, but shorn of all those impurities which depreciate its value in the eyes of the manufacturer. All appeared to be greatly interested, his excellency in particular putting several questions to Mr. Burgess relative to the process under exhibition." The *Straits Times* representative, writing of his journey from Singapore to the show, says: "On the way rubber was the favorite topic of conversation and a large number of young rubber trees was to be seen as the train passed the various estates. There is no doubt that the rubber industry has come to stay and at no distant day will be the mainstay of Malaya." John Little & Co., were mentioned as exhibiting machines for pressing rubber. The committee in charge of the show embraced Messrs. Stanley, Arden, E. V. Carey, and W. W. Bailey, whose names are familiar in connection with rubber culture.

#### BRIEF MENTION.

HERR R. F. WOHL, of Berlin, has been added to the board of the Kautschuk-Pflanzung "Meanja" Actiengesellschaft, making the eighth member. The company was formed in 1903, with headquarters in Berlin, to plant rubber (*Kickxia elastica*) in Victoria, Kamerun. [See THE INDIA RUBBER WORLD February 1, 1904—page 166.]

=Herbert M. Darby, writing from Klang to the *Malay Mail*, states that while in England recently he saw some £1 shares of the Selangor Rubber Co., Limited, sold at £3 2s. 6d., or 3½ times their par value. This company's plantation, started in

1899, was noticed at length in THE INDIA RUBBER WORLD for September.

=The Hon. George W. Peck, president of the San Pedro Rubber Plantation Co. (Milwaukee), engaged in planting in the Mexican state of Chiapas, on September 1 was nominated by the Democratic state convention in Wisconsin for the office of governor, which position he filled several years ago.

=The Vallambrosa Rubber Co., Limited, was registered April 22, 1904, at Edinburgh, Scotland, with £60,000 capital, to acquire and develop rubber plantations in the Straits Settlements. Registered office: 123, George street, Edinburgh.

=Late Ceylon newspapers contain advertisements, of which the following is a sample—

**PARA RUBBER SEED** at R5 per 1,000,  
Delivery August-October. Stumps at R12-  
50 per 1,000. May onwards delivery.—Apply,  
Yataderiya Tea Co., Ltd., Kegalle. s w

—indicating that rubber tree seeds have become there a staple article of commerce. The price quoted—5 rupees per 1000—equals \$1.62½, or 6s. 8d. "Stumps" are seedlings which have been tapped, the price equalling \$4.06 per 1000.

#### RUBBER PLANTATION COMPANY PUBLICATIONS.

THE Vera Cruz Development Co., Canton, Ohio=*La Esmeralda Bulletin*, July, 1904. 4 pages.

El Triunfo Rubber Plantation—Alfred C. Adler, Boston, Massachusetts:=[Report on planting of Ceará rubber (*Manihot Glaziovii*) in Nicaragua.] 24 pages.

Conservative Rubber Production Co., San Francisco.=(a) About Our Rubber Plantation. 32 pages. (b) What Our Shareholders Say. 12 pages. (c) Answers to Some of the Rubber Questions Shot at Us. 12 pages.

Sulo-Suchil Plantation Co., Toledo Ohio.=(a) Report of John A. Gledeman, Inspector. 4 pages. (b) Plantation Sulo-Suchil. [Photographic views to illustrate preceding report] 40 pages.

#### RUBBER MATS AND BEESTINGS.

ONE of the Philadelphia newspapers contained recently an article on the business done by an apiarist near that city in supplying beestings to a chemical laboratory as a source of formic acid, for use in the treatment of rheumatism. This is a business which for some time past has contributed to the profits of beekeeping in different parts of the country, but the novel feature in the Philadelphia newspaper report related to the method employed in depriving the bees of their stings, together with the sac containing the poison. Bees, it was stated, dislike the odor of India-rubber, and, when a mat of this material is placed near their hives, attack it fiercely, thereby losing their stings. The newspaper adds: "Other apiarists who are undertaking to supply the demand for beestings, pick up the bees, one at a time, with small tweezers, and with another pair of tweezers extract the stings, afterward freeing the insects. This is a slower method than the use of the rubber mat, but apiarists are finding it profitable." In response to an inquiry for details addressed to the Pennsylvania beekeeper referred to, he wrote:

TO THE EDITOR OF THE INDIA RUBBER WORLD: Your letter reached me promptly and all understood. I may seem selfish, but I am sorry I cannot comply with your request. I have spent many years in the bee business, experimenting and practising, as well as studying, and I do not feel at liberty to give years of experience away at the present time. What little the papers have written up has been drawn from me incidentally, and a great deal of it is incorrect. Trusting you will appreciate my position, as it is entirely a matter of business, I remain, Yours truly.

## INDIA-RUBBER AT THE ST. LOUIS WORLD'S FAIR.

JURY No. 11, of the International Jury of Awards for the Louisiana Purchase Exposition at St. Louis, had for its work the examination of, and making of awards for, the exhibits comprised in three Groups in the department of Manufactures. In the official catalogues these groups, with their subdivisions, were designated as follows, except that the descriptive matter is shortened here:

**Group 35. Articles for Traveling and for Camping; India-Rubber and Gutta-percha Industries.**

Class 201. Trunks and traveling cases and fittings; cushions; various requisites for travelers.

Class 202. Portable equipment especially prepared for traveling and for scientific exploration.

Class 203. Tents and accessories; camp equipment generally.

Class 204. Military tents and furniture.

Class 205. Equipment and methods used in the manufacture of India-rubber and Gutta-percha goods.

Class 206. General products of the India-rubber and Gutta-percha industries. Waterproof clothing and boots and shoes.

**Group 36. Toys**

Class 207. Equipment and processes used in manufacture.

Class 208. Playthings; dolls; talking dolls; mechanical toys; musical instruments; dolls' furniture; animals; toys in India-rubber and in gold beaters' skin; scientific and educational toys; games.

**Group 60. Leather, Boots and Shoes, Furs and Skins, Fur Clothing.**

Class 377. Leather in every variety.

Class 378. Boots and shoes, booties, slippers, overshoes, soles, accessories, etc.

Class 379. Gloves.

Class 380. Furs and skins, dressed and tanned.

Class 381. Fur clothing, caps, hats, hoods, gloves, boots, etc.

Class 382. Fur mats and robes; fur trimmings.

Jury No. 11 was made up of experts in all the lines embraced in this list, and consisted of the following named persons:

J. M. HAYS, *Chairman*; Giesicke-D'Oench-Hays Shoe Co., St. Louis.  
HENRY C. PEARSON, *Secretary*; THE INDIA RUBBER WORLD, New York.

EUGENIO DAHNE, M. E., Brazilian Commissioner. Vice chairman Group 35.

ADOLPH RICHTER, F. Ad. Richter & Co., Rudolstadt, Germany. Vice chairman Group 36.

ALFRED SCANNELL, President Alfred Scannell Leather Co., St. Louis. Vice chairman Group 60.

W. B. ALTSMAN, The Drew-Selby Co., Portsmouth, Ohio.

W. L. DESNOYERS, The Desnoyers Shoe Co., Springfield, Illinois.

T. L. JOHNSON, Superintendent Special Exhibits, Louisiana Purchase Exposition, St. Louis.

CHARLES J. LIPPERT, President and Treasurer The Leonard Roos Fur Co., St. Louis.

I. C. PAUL, P. P. Paul & Co., Cincinnati, Ohio.

GEORGE PERRY, Dayton Last Works, Dayton, Ohio.

GUSTAV SCHLECHT, Western Leather Co., St. Louis.

O. F. SCHWERTDMANN, Schwerdtmann Toy Co., St. Louis.

R. E. TOMMERSON, Concessionaire, Louisiana Purchase Exposition, St. Louis.

HENRY HUISKAMP, Huiskamp Brothers & Co., Keokuk, Iowa.

ARTHUR JONES, A. J. Bates & Co., Chicago, Illinois.

A. R. TIRRELL, Torrey, Curtis & Tirrell, Weymouth, Massachusetts.

A. L. FAY, Ganss-Langenberg Hat and Glove Co., St. Louis.

JUAN P. THOMAS, Editor *Revista Ilustrada de la Zapateria*, Argentina.

JULES LAFON, President d'Honneur de l'Union General des Gautiers, Paris, France.

FREIFFER-BRUNET, Paris, France.

HENRY D'ALLEMAGNE, Archiviste-Paleographe, Paris, France.

LOUIS VUITTON, Paris, France.

Baron F. VON BARDELEBEN, Imperial German Commission.

Lieutenant J. O. MONASTERIO, Attache Mexican Commission.

SUKESBEIRO DOI, Department of Education, Japan.

RISABURO OTA, Commission of Imperial Japanese Government, Japan.

The Editor of THE INDIA RUBBER WORLD, having been ap-

pointed on this jury, was elected secretary by his colleagues. Besides serving as secretary for Jury No. 11, he was a member of the committee for each of the Groups, and chairman for Classes 205 and 206. After the jury had completed its work, he was unanimously elected chairman, to represent it in the

DINNER TENDERED BY THE CHIEF OF DEPARTMENT AND THE MANUFACTURES COMMITTEE, TO THE INTERNATIONAL JURY OF AWARDS FOR MANUFACTURES, GERMAN IMPERIAL PAVILION.

MENU

Consomme  
—  
Martini  
Salmon Trout, Sauce Or  
—  
Rudesheimer  
Filet of Beef, Mushrooms  
—  
Chateau Puy Ducasse  
Capon du Mans  
—  
Mumm's Extra Dry  
Salade Internationale  
—  
Glace Bombe Louisiana Purchase  
—  
Liquers  
Coffee

higher jury for the department of Manufactures, composed of the chairman and vice chairman of each of the group juries. Altogether, Jury No. 11 had more than 400 exhibits to pass upon.

It is not in order for a juror to talk much about jury experiences, unusual though they be and full of interest. One might perhaps dwell a moment on the banquets and receptions, and of

these there are two that will ever live in the writer's memory. The two menus here appended tell the story in part. At the first, in the magnificent German Imperial Pavilion, there were gathered some 250 guests, and among the speakers were the

Hon. David R. Francis, president of the Exposition; F. J. V. Skiff, director of exhibits; M. H. Hulbert, chief of the department of Manufactures; the Imperial commissioners from England, Germany, France, Austria, and Japan, and three Americans, including the

DINNER TENDERED BY THE AMERICAN MEMBERS OF JURY NO. 11, COMPRISING GROUPS 35, 36, AND 60, TO THE FOREIGN MEMBERS OF THE INTERNATIONAL JURY OF AWARDS FOR MANUFACTURES.

MENU

Blue Points  
—  
Chicken Broth  
—  
Celery  
Olives  
—  
Almonds  
Fillets of Pompano.  
—  
Cucumbers  
Meuniere  
—  
Potato Rissoles  
Mignon of Beef.  
—  
Cheron  
Punch Jefferson  
—  
Turtle Doves, sur Croutes  
—  
Salade Melba  
Bombe Pralinee  
—  
Cheese  
—  
Coffee  
Manhattan Cocktails  
Haut Sauternes  
Pommard  
White Seal  
Apollinaris

Editor of this Journal. At the second dinner, which was more informal, everyone present spoke or joined in singing "America" and "La Marseillaise."

After the jury work above alluded to had been finished, the Editor had an opportunity—though a limited one, on account



A QUORUM OF JURY NO. 11, BEFORE THE BRAZILIAN PAVILION, ST. LOUIS WORLD'S FAIR.

of the lack of time—to draw up a list of the rubber and allied exhibits, which is appended. This list is intended to serve the double purpose of a guide to those who have not yet visited the Exposition, and who may desire to see what it contains in rubber during October and November, and also as a record of what the rubber of trade of the world contributed toward the great World's Fair of 1904.

#### UNITED STATES.

In the following list of exhibits relating to the India-rubber and allied trades, five excellent displays are not included, for the reason that they have already been described and illustrated in *THE INDIA RUBBER WORLD*—namely, those of the following concerns:

The B. F. Goodrich Co .....	Akron, Ohio.
Banner Rubber Co. ....	St. Louis, Missouri.
The Eureka Fire Hose Co. ....	New York.
Apsley Rubber Co. ....	Hudson, Massachusetts.
Voorhees Rubber Manufacturing Co. ....	Jersey City, New Jersey.

It is possible here to devote only a brief amount of space to the remaining exhibits, as follows:

**GOODYEAR TIRE AND RUBBER CO.** (Akron, Ohio) had an exhibit in the Transportation building that at once attracted the eye of the passerby because of the huge pebbled ball, some two feet in diameter, that hung at the entrance, and drew attention to the Saunders pneumatic golf ball. Within the space allotted to the company were tires—solid and pneumatic, for carriages, autos, and bicycles; rubber tiling in various colors; druggists' sundries; horseshoe pads, in black and white; and a special machine for attaching solid tires to vehicles.

**THE REPUBLIC RUBBER CO.** (Youngstown, Ohio), in the Transportation building, showed samples only of their solid tires for vehicles, the exhibit being in charge of Mr. W. B. Neff.

**THE KOKOMO RUBBER CO.** (Kokomo, Indiana) had a modest but effective exhibit of solid and pneumatic tires, in red and black, a fine picture of their factory, hams of crude rubber, and so on.

**THE SWINEHART CLINCHER TIRE AND RUBBER CO.** (Akron Ohio), on a long table protected by a brass rail, showed types of their tires, large and small, and while there was no one in charge to exploit their virtues, there were plenty of Swinehart booklets that told the story very completely.

**THE FIRESTONE TIRE AND RUBBER CO.** (Akron, Ohio) showed in the Transportation building some of the largest solid tires ever produced. These were exhibited both on wheels and alone. In addition were samples of all sizes, from the smallest up. The exhibit was well arranged—the furniture of oak, a handsome rug on the floor, and the whole enclosed in brass railings.

**THE FAWKES RUBBER TIRE CO.** (Denver, Colorado) showed their special type of tire in the Transportation building, and as usual had a crowd of interested seekers after something in tires that will not puncture.

**THE STANDARD UNDERGROUND CABLE CO.** (Pittsburgh, Pennsylvania) showed three cases containing samples of telegraph, fire alarm, and electric light and power insulated wires. They also showed a section of a subway into which were carried lead covered cables from a huge reel. The exhibit was



simple but graphic, and was installed by the company's St. Louis branch.

THE WOVEN WIRE RUBBER CO. (New York) had an exhibit adjoining that of the Swinehart Clincher Tire company, given up wholly to channeled horseshoes of aluminium, the tread of the shoe, molded into the channel, being made of rubber and woven wire.

THE I. B. KLEINERT RUBBER CO. (New York) had in the Manufactures building an exceedingly tasteful and comprehensive exhibit of their full line of goods. Some twenty types of dress shields were shown, all of which were explained and illustrated in their "Dress Shield Book" of which many thousands were distributed.

THE SILL PNEUMATIC HORSE COLLAR CO. (Bloomington, Illinois) showed two samples of horse collars of the pneumatic type, of India rubber in part, and promised to send catalogues to all who registered their names.

THE HALLANAN MANUFACTURING CO. (New York) showed a fine collection of rubber horse shoe pads in many different styles at their booth in the Manufactures building.

THE VEHICLE APRON AND HOOD CO. (Columbus, Ohio) had an excellent showing of rubber storm fronts for carriages, the goods being displayed on four types of carriages.

SAKS & CO. (New York) had a fine display of wearing apparel for automobilists. They showed both French and American garments in cravenette and single texture rubber. One garment which particularly deserved mention was a wine colored silk lined surface coat of American make, fitted with broad leather collar, and of excellent design. There were also couverture trousers of black rubber lined with brown drill, auto coats with rubber yoke, shirt effect, and so on. The exhibit was in care of Mr. Harold Debrest.

THE L. C. CHASE CO. (Boston) erected in the Palace of Manufactures a huge glass fronted case with two wings for their various products. In the wings were displayed robes, etc., while the central portion was given up to Chase leather and carriage cloths, a fine showing. The colored goods in the former fabric were particularly fine, as were the various types of embossed surfaces.

THE PANTASOTE CO. (New York) had an especially attractive exhibit of their goods, which were displayed in a large open double pavilion, in charge of an expert demonstrator. Their product, in many new embossed designs, was used as a covering for the furniture in the pavilion, while booklets, sample swatches, and information were freely distributed.

JOHN ROYLE & SONS (Paterson, New Jersey), who had one of their tubing machines as a part of the exhibit of the Voorhees Rubber Manufacturing Co., distributed a neat folder telling the story of the Royle machine.

WERNER & PFLEIDERER (Saginaw, Michigan) had a fine exhibit of machinery in the Liberal Arts Palace, only one machine, however, interesting the rubber trade—their masticator, shown for the first time at an American world's fair.

THE TEXTILE MACHINE WORKS (Reading, Pennsylvania) were located in the Manufactures building, and had a live exhibit of many types of braiders for use in covering insulated wire. Although a part at least of their machinery should have been in the Palace of Electricity, visiting electricians and manufacturers sought them out and their machine received much attention.

THE SINGER MANUFACTURING CO. (New York) had in their magnificent exhibit machines for almost every kind of sewing that may be imagined. One of the most notable was that for stitching rubber belting, a machine well known to the rubber trade, and one that stands alone in its class.

THE COMPRESSED AIR HOUSE CLEANING CO. (St. Louis) showed to big crowds daily how compressed air carried through lengths of rubber hose cleaned carpets far more effectively than any other system. Rubber manufacturers especially looked on with satisfaction, forecasting a big outlet for hose as this system becomes more generally used.

#### GERMANY.

CONTINENTAL CAOUTCHOUC AND GUTTAPERCHA CO. (Hannover) had a notable exhibit in the Transportation building, in charge of Mr. A. E. Richter. The big pavilion which contained the goods displayed was done in red, white, and gold, and had for its main display the "Continental" motor tires, that have scored such a success in Europe. As a souvenir there was presented a brochure bound in red and gold, giving a history of the great Gordon-Bennett race of 1903. The sixteen fine illustrations told the story of the race most graphically, and incidentally both text and pictures gave due credit to the Continental tires, that were such potent aids in the winning of the trophy.

THE PETER UNION PNEUMATIC TIRE CO. (Frankfort o/M) had a fine display of pneumatic tires for bicycles and especially for automobiles, in charge of Mr. Paul Friedrichsen. The exhibit covered the Peters patent double rim, and puncture proof bands, together with the Peters patent rims for solid tires, and a solid tire with hard rubber base.

#### FRANCE.

MICHELIN & CIE. (Clermont-Ferrand) exhibited, in the Transportation building, an attractive showcase, in which were displayed sections of their pneumatic tires, tire tools, repair kits, pumps and so on. It was one of the notable displays of goods in this line.

E. C. GRAMMONT (Paris) made an exhibit in the Electricity building of insulated wire and cables, treads for tires in red and black, and general rubber goods, all in a fine cabinet fitted with glass shelves and festooned with electric lights. He also distributed catalogues in English, French, German, and Spanish.

BERGOUGNAN & CO. (Clermont-Ferrand) had a general exhibit of molded work in red and white rubber and a variety of automobile tires. One that attracted the most attention had leather studs molded into the tread to prevent slipping, and also to add to the life of the tire.

FALCONNET-PERODEAUD (Paris) showed six wheels equipped with pneumatic tires, to which was attached a "patented cemented protector." There was also shown the "Normal" tire, with what is known as the "compressed tread band."

L. FRANCOIS GRELLON & CO., (Paris), a very important house, had a small but comprehensive exhibit of general technical rubber goods. Their product in insulated wire and hard rubber was also well exemplified. A stack of Balata belting, with samples of the crude gum, attracted much attention.

L. EDELINE (Paris) also showed a general line of mechanical rubber goods, together with tires, tire covers, and certain druggists' sundries.

M. JULIEN PINCON (54, Boulevard Magenta, Paris) showed a steel horse collar with a pneumatic accessory which he called a "tyre," and which had much merit. The collar was light, strong and very simple.

THE SOCIETE FRANCAISE DES CABLES ELECTRIQUES, system of Berthold, Boull & Co. (Lyons), showed a rough shaft of Gutta-percha covered cable, in a glass case.

ANTOINE WOLBER (Paris) displayed in the Transportation building 49 samples of various types of bicycle tires, together with a graphic chart showing the beginning of his business and

its present size. According to this chart he now operates two factories, two dynamos of 500 HP., and in 1903 produced 150,293 pneumatic tires. The special tires shown by him were the "Sprinter," "Racer," "Stayer," "Journey-Racer," "Motor-cycle," and "Livery cycle."

THE SOCIÉTÉ INDUSTRIELLE DES TÉLÉPHONS (Paris) showed an oaken case in which were a full line of samples of their insulated cables.

#### BELGIUM.

ANDRÉ DE VRIENDT showed a few pieces of waste rubber in a case in the Belgian pavilion, but its only value was to show that among other waste materials he bought vulcanized rubber scrap.

#### ITALY.

PIRELLI & CO. (Milan) had a very important display of all kinds of rubber goods in the Palace of Electricity. There were toys, diving armor, matting, hose of all kinds, tires, battery jars, clothing, hard rubber, insulated wire and cables, etc. There were also fine pictures of their great factories and a list of their ten diplomas of honor, and many gold medals awarded at former exhibitions.

THERE were of course many other exhibits that consisted in part of rubber. For example, the Brunswick-Balke-Callender Co. (New York) showed billiard cushions. Crutzen Brothers, of Belgium, had in with leather goods some rubber-soled shoes, and there were exhibits such as the Whiteley exerciser, and the huge balloons of silk covered rubber whose owners always refused to tell by whom they were manufactured.

#### CRUDE RUBBER EXHIBITS.

IN the great government exhibit for the Philippines the one building that of all others was of interest to the writer was the Forestry building. It was in this that the native India-rubber and Gutta-percha from the new American possessions appeared. The rubber was not much to look at, nor was there much of it. Besides, it was black, sticky looking, and of low grade. But the Gutta-percha exhibit was very satisfactory. Here were sections of two huge *Palagium* trees, fully two feet in diameter, while grouped around were rolls, blocks, and balls of gutta in great quantity. There were also baskets as big as hogsheads full of gutta balls the size of a cocoanut, and near by a box covered with coarse wire cloth, in which were several tons of the balls. According to the display cards most of the gutta came from the island of Mindanao, its source being the *Palagium latifolium*. Neither here nor in the building devoted to Philippine machinery and utensils were there to be found any evidences of the strange and crude machines for working gutta and rubber, with sketches of which a certain soldier-correspondent in the Philippines has succeeded in bamboozling various American papers.

The Ceylon exhibit of cultivated rubber from the *Hevea* was not large, but was particularly fine. Culloden, Heatherly, Gikiyanakanda, and Arapolakanda estates furnished about 200 discs that were easily the best crude rubber ever seen in the United States. It is doubtful, however, if the agricultural experts can comprehend what this exhibit means. I became so interested in it that I interviewed some of the high officials with regard to getting others interested, and they suggested a letter to the chief of Agriculture at the fair, and the following letter is the first result:

F. W. TAYLOR, Esq., Chief of Agriculture, Louisiana Purchase Exposition, St. Louis.

MY DEAR SIR: May I call your special attention to the importance of the exhibits of crude India-rubber in the Ceylon section in the Palace of Agriculture.

This rubber represents the final successful introduction of the South American rubber tree—the *Hevea Brasiliensis*—into the Far East, and is the product of the large estates Culloden, Heatherly, Arapolakanda, and Gikiyanakanda, two of which I visited and inspected last winter, and can certify that they are producing rubber profitably and on a commercial scale.

The rubber sells in Liverpool or New York for a much higher price than any other in the world, is perfectly clean, and of even quality, and is used in the very finest of goods. This most satisfactory evidence of a new and reliable source of fine rubber, particularly as it comes from cultivated trees is of use to the whole industrial world, and would seem to merit special recognition from this Exposition. Respectfully,

HENRY C. PEARSON.

Chairman Classes 305 and 306, India-rubber Processes and Manufactures, Department D, Group 35; Editor THE INDIA RUBBER WORLD, New York.

Brazil devoted one corner of her rustic pavilion in the Palace of Agriculture to India-rubber. There were bottles of the latex of *Hevea*, and specimens of coarse and fine Pará rubber in big balls and hams, sheets, spindles, and various odd forms that rarely reach the American market, at least.

Costa Rica exhibited a fine water color of the true *Castilloa elastica* tree and various jars in which were specimens of rubber from the washed latex of *Castilloa alba* (?). There was also rubber from the *Castilloa Costaricana*. There were also some twenty rolls of "Central" rubbers and some gums much like "Nicaragua Strip." There was also a sample of "gutta" from *Tabernaemontana* sp., a dark, resinous, sticky product.

In the general Cuban exhibit was a large case containing crude rubber from cultivated *Castilloa* trees in Cuba, shown by Federico Martinez de Castro, of Havana. The rubber looked well and attracted much attention.

German East Africa displayed a fine lot of ball rubber. First there were nine baskets in which were little hard balls, all very similar in appearance, but labelled respectively "Nitumbe," "Machinga," "Mohoro," "Mahange," "Donde," "Matechobona," "Hyari," and "Makowei river"—all from *Landolphia* species. Then there were rolls of Gutta-percha from the *Palagium suffianum*, while on the wall near by was a card from the establishment of Dr. H. Traun & Sons (Hamburg, Germany) showing these rubbers made up into goods.

Rhodesia, by a wall exhibit, showed a vine and tendrils, probably a *Landolphia*, and ten sausage shaped samples of rubber, dry and firm, but full of bark.

Madagascar displayed good samples of the "Pinky" sort, together with black sticky slabs from the *Landolphia sphaerocarpa*, and black discs from the *Mascarenhasia lisianthiflora*.

From Bahr-el-Ghazal, in Egypt, came a few spindles of African rubber. Siam furnished two small pyramidal cases of rubber of the Assam sorts.

The Orizaba Rubber Plantation Co. (Chicago) were finely located in the Palace of Agriculture, Mr. H. Jay Smith being in charge. They showed some 200 photographs of growing *Castilloa*, together with sections of trunks of rubber trees 1, 2, 3, 4, 5, and 6 years old. They had also samples of rubber, and the pavilion was most tastefully decorated with various Mexican trophies.

THE WONDERFUL COLORADO RUBBER.—A correspondent of the Boston *Transcript*, in a four column summary of the manifold resources of Colorado, makes this brief reference to the most wonderful product of that state: "There is no space here even to mention the scores of new grain grasses and plants—the rubber plant for example, whose product is equal to the best Pará gutta percha—trees and fruits which are being introduced and raised successfully and profitably." Who else knows anything about "Pará gutta percha"?

## NEW GOODS AND SPECIALTIES IN RUBBER.

## THE SAMSON LEATHER TIRE.

THIS is a rubber tire, of the "Clincher" type, provided with a tread band of chrome leather, protecting the whole of the exposed part of the pneumatic tire, to which it is vulcanized. The leather band is fastened to the cover of the rubber tire by rivets, in two, three, or four

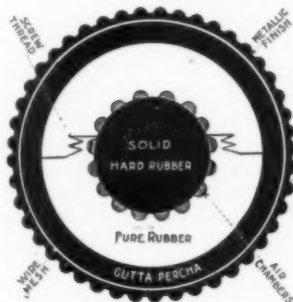


rows, according to the width of tread required. The rivet heads, which are round, project about  $\frac{1}{8}$  inch above the surface of the leather. The object of this leather tread is to prevent punctures, while it also tends to prevent slipping, in which function the rivet heads also aid. The Samson tire of late has attained no small degree of popularity in the United States and in most

European countries, and has been employed with entire success on automobiles figuring in some recent notable races. The American house is at No. 12 West Thirty-third street, New York, the manager of which, A. E. Gallien, has leased premises in Brooklyn (New York) for the manufacture of these tires. It is not understood that the rubber parts are to be made at the premises referred to.

## SQUIRES'S "QUICK" GOLF BALL.

THE construction of this ball involves the use of a rubber core in two sections, joined together by screw threads; within

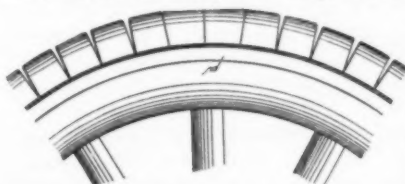


which is placed a small ball of aluminum, the inside of the rubber core being so formed as to provide a number of air cells. The whole is placed within a Gutta-percha cover. The illustration herewith shows the method of joining the two sections of the rubber core, which is pointed out as having advantages over rubber wound into a core

in the form of thread. The cover may also be formed of semi-hard rubber, with which aluminum has been compounded. Patents have been applied for. [The Akron Dental Rubber Co., Incorporated, Akron, Ohio.]

## MORE KROTZ TIRE PATENTS.

THE newly formed Krotz Manufacturing Co. (Springfield, Ohio) have for their object the exploitation of rubber vehicle tires under patents issued to Alvaro S. Krotz. In the last INDIA RUBBER WORLD [page 421] was illustrated the essential feature

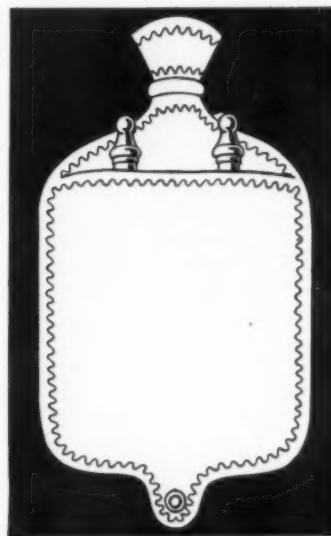


covered by the first Krotz patent. Under date of September 6 another United States patent [No. 769,172] was issued to Mr.

Krotz, the same being for the combination with a metallic rim channel, with parallel removable sides, of a rubber tire, the tread of which is divided into short sections by narrow slits, while the base forms a continuous band, said rubber tire being held in the channel by means of longitudinal retaining wires or bands running through the base. It is understood that a third patent is pending. The company report that they have carried out careful tests and will soon be ready to market.

## "BOTTLEHOT."

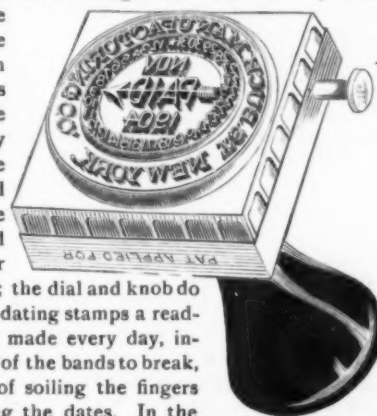
THE accompanying illustration so clearly indicates the nature of a new device now being offered in the druggists' sundries line as to render any extended description of the same unnecessary. Primarily its use is to keep the contents of nursing bottles warm for a considerable length of time, which often will prove a great convenience, especially at night. It is also a desirable contrivance for use while on a journey. But its uses are many. It may be used to keep poultices, liquid medicines, and the like, warm, either at night or at other times; it may be used also as a hot water bottle.



"Bottlehot" has a duplex heating side, which is referred to as almost doubling the duration of the heat. [Bottlehot Bag Co., No. 1 Madison avenue, New York.]

## BUCK'S NEW DIAL DATING STAMP.

THIS new stamp, for which patents are pending, is offered as possessing a number of advantages over the ordinary dating stamps. For one thing, a distinctive advantage exists in that fewer changes are to be made—one change per month, by simply taking out the month logotype and replacing it with the new month, and changing the year date but once a year; the dial and knob do the rest. In the band dating stamps a readjustment has to be made every day, involving the liability of the bands to break, and the annoyance of soiling the fingers with ink in changing the dates. In the Buck stamp, the day of the month is shown by simply turning the knob so that the arrow on the revolving center of the stamp





points to the day wanted, as shown in the illustration. This stamp has the Buck pneumatic cushion under the entire die. [T. S. Buck Manufacturing Co., No. 221 Canal street, New York.]

#### PRUSSIAN RUBBER SPONGES.

The Hanover Rubber Co., Limited (Hanover-Limmer, Germany), after several years' experimenting, are manufacturing an article which they call "The Prussian Pure Rubber Sponge, 'Gloria'". These sponges are reported to have met with great success in Europe, on account of their softness and fine texture, while the cost is reasonable. George Borgfeldt & Co. (New York) are sole agents for the Hanover company, in the United States and Canada.

#### THE AMAZON RUBBER PROSPECT.

BY AN OCCASIONAL CONTRIBUTOR.

LOWER rubber prices in the not distant future are to be expected, in the very nature of things; already the high prices of the past year have had the effect of curtailing production, and their long continuance would drive many manufacturers from business. But present prospects justify an expectation of liberal supplies of rubber during the present crop year, which will have the effect of lowering prices somewhat, even with a well sustained consumption. The past twelve months have witnessed an increased production of "medium" sorts, after a tendency to decline for two or three years, and there is no reason to suppose that the present rate of output of these sorts will not continue, at least as long as a high price level prevails.

Preparations have been made for getting out a large crop of Pará rubber, judging from the movement of laborers and provisions toward the upper Amazon regions. The high prices prevailing at the commencement of the crop season were favorable for such a movement, besides which an especially severe drought exists in Ceará, a state which, under such circumstances, always supplies a large force of rubber gatherers, who otherwise would remain at home and work their farms.

Conditions in the Acre district are more favorable for a large output of rubber than for a long time past. That probably is the richest rubber region in the whole Amazon system, but its production has been hampered by various political and other troubles, which seem now about at an end. After the Brazilian treaty with Bolivia, some friction arose with Peru, but that now is a matter of the past. To-day there is a question of authority between the state government of Amazonas and the government at Rio, which insists upon administering the Acre as a Federal district, but this is not likely to interfere with the working of the rubber camps.

Nothing can ever be predicted with certainty in regard to the extent of the rubber crop, but it seems reasonable to expect, in view of favorable conditions in the rubber producing countries, and the stimulus afforded by higher prices than ever before prevailed for such a great length of time, an increase this year in the margin between the production and consumption of rubber. The natural effect would be somewhat lower prices, though a largely increased production in any given year is an impossibility, owing to the slow rate of progress in the tropics which must always be taken into account.

Progress has been especially slow in the development of the Acre district, due in part to causes which have not disappeared with the ending of the political troubles there. The expenditure of a million dollars for improving the waterways in that region would work a wonderful improvement in navigation and do much to stimulate the business of gathering rubber.

But where is the money to come from, and who would undertake the work? There is no private interest prepared for it, and government undertakings in the Brazilian states require an immense amount of time for results, if any are ever reached. During some months of each year the Acre itself is a very narrow and shallow stream. It could still be navigated by steam launches, however, but for the many trees which fall into it and which it is nobody's business in particular to remove. Yet the total cost of removing such obstacles, and of dredging here a bit and blasting there a bit, would not be great, in view of the benefit to be derived, and the stream could be made navigable all the year and for larger vessels than can now pass through it during low water.

At present communication with the rubber districts on the Acre is practically cut off for months at a time. Not only does no rubber come out, but the settlers there have no means of obtaining supplies. All their food is imported, and at times their condition becomes one of real hardship from the lack of food, resulting in weakness and inability to resist the fevers so prevalent there. The keeping open of the Acre alone would work a great change in the rubber business of the Amazon valley.

But the governments concern themselves more with the highest rate of export duty that the rubber will stand, and with who shall collect the tax, and with such schemes as that in which a private corporation at Manáos has been authorized by the congress to levy an extra tax upon all rubber exported from the state, to provide capital for a bank. While the avowed object is to provide an accumulation of capital, available for the rubber merchants in financing shipments, the only apparent result to date is that the promoters of the bank have been afforded an easy means of making a living.

#### MUTUAL FACTORY INSURANCE.

At a recent meeting of the Furniture Association of America, Mr. Benjamin Taft, secretary of the Rubber Manufacturers' Mutual Insurance Co., read a paper on "Why Mutual Fire Insurance is Feasible, and Why." Among other things he said:

"In many ways it is quite feasible to form a furniture manufacturers' mutual insurance company. The plan of the different trades or manufacturers insuring each other is not a new one. In 1888 the cotton manufacturers organized a mutual, and their success is too well known to need any remarks. In 1863 the millers started their mutual to insure flour mills. In 1895 the Lumbermen's Mutual came into the field, and in 1884 the Rubber Manufacturers' Mutual commenced business, and here is an example that you might well follow.

"The rates on rubber factories when that company was formed were so high that many of them could not afford to carry any insurances, and when the company was organized with rubber men making rules for the guidance of rubber men the business commenced to look up, and to-day the despised rubber factory of 1884 can get a \$1000 policy for \$1.50, while in 1884 it had to pay \$30 for the same identical \$1000 policy. You can very readily see from this that one trade making rules for itself to follow and having a company of its own to carry them out, the company is practically assured of success at the start. Now, what was done by the cotton manufacturers in 1888 and the rubber manufacturers in 1884, certainly seems to me can be done by the furniture manufacturers in 1905, as there is no man who is willing to admit that the cotton manufacturers or the rubber manufacturers are any smarter than the furniture manufacturer."

## RECENT RUBBER PATENTS.

## UNITED STATES OF AMERICA.

ISSUED AUGUST 2, 1904.

- N**O. 766,160. Playing ball [for golf; shell apertured to prevent cracking]. H. Bentz, New York city.
- 766,170. Hose reel [for indoor fire protection apparatus]. E. Cliff, assignor to Cliff & Gilbert Co., New York city.
- 766,204. Hypodermic syringe. R. Walsh, Washington, D. C.
- 766,252. Cuspidor. E. F. Holland, New York city.
- 766,297. Wheel for vehicles [having two solid rubber tires, side by side]. A. Turkington, Lafayette, Ind.
- 766,336. Vaginal irrigator. C. O. Farrington, Palestine, Texas.
- 766,463. Pneumatic tire [adapted to removable channel flanges]. H. A. Palmer, Erie, Pa.
- 766,560. Fountain pen. O. E. Weidlich, Cincinnati, Ohio.
- 766,637. Wheel tire. [Solid rubber.] A. H. Marks and W. M. Metzler, assignors to The Diamond Rubber Co., Akron, Ohio.
- 766,640. Hose rack. M. C. McEhan, Buffalo, N. Y.
- 766,711. Elastic cushion heel. J. F. B. Litchfield, Worcester, Mass.
- 766,734. Force pump. C. Schellhammer, Warren, Pa.
- 766,759-756,760. Fountain pen. A. B. Davis, assignor, by mesne assignments, of one-half to E. H. Chase, both of Philadelphia.

## Trade Mark.

- 43,103. Rubber tire for vehicles. G & J Tire Co., New York city. *Essential feature.*—The characters "G & J" inclosed in a figure described as an inverted isosceles triangle having indentations formed at the vertices thereof. Used since Oct. 1, 1903.

ISSUED AUGUST 9, 1904.

- 766,867. Inhaler for anesthetics. G. L. Bennett, Chicago, Ill.
- 766,910. Inflation valve. J. H. Spray, assignor to Scovill Manufacturing Co., Waterbury, Conn.
- 766,926. Vehicle wheel [having a central elastic pneumatic cushion]. C. N. Beal, San Francisco.
- 766,961. Hose coupling. C. W. Morris, Peoria, Ill.
- 766,985-768,986. Hose drier [for fire department use]. C. M. Bowman, Lebanon, Pa.
- 767,043. Non collapsible tire [with filling consisting of elastic balls, having spherical air chambers connected by cylindrical perforations, forming one continuous air chamber]. J. T. Dickey and C. D. Derby, Barberton, Ohio.
- 767,120. Rubber tread [for boot heels and such like use; formed of an elastic body and a wear resisting fabric]. P. W. Pratt, Boston.
- 767,208. Fountain pen. S. S. Crocker, Boston, assignor to R. C. Crocker, Clifton, Mass.
- 767,231. Burner and mixer for cautery. J. P. Muller, New York city.
- 767,272. Automatic car discharge valve. W. A. and B. S. H. Harris, assignors to Harris Manufacturing Co., all of Greenville, S. C.
- 767,323. Insulated battery cell [comprising a containing-casing composed of metal with an exterior covering of insulating material susceptible of vulcanization, vulcanized thereto to constitute therewith an integral casing]. V. G. Apple, Dayton, Ohio.
- 767,348. Vehicle tire [solid rubber, having embedded in it a series of pieces of metal, the ends of which engage longitudinal retaining wires at either side of the tire]. B. F. Kenna, assignor of one-fourth to W. Ibbeken, both of Philadelphia.

ISSUED AUGUST 16, 1904.

- 767,401. Horseshoe [with rubber cushion]. M. D. Glassbrook, Angola, Ind.
- 767,430. Method of shaping rubber wheel tires. [Refers to outer covers.] F. S. Oranstien, Kensington, Victoria, Australia.
- 767,606. Vehicle tire. [Pneumatic; patent covers special rim.] C. Stein, Akron, Ohio.
- 767,628. Anticontraction steel bar hoofpad. J. W. H. Chrisman, assignor of one-fourth to E. F. Pollard, both of Topeka, Kans.
- 767,756. Elastic tread attachment for horseshoes. J. N. Hornblower, Elizabeth, N. J.
- 767,843. Hose coupling. A. J. Smith, Buena Vista, assignor of fifty-one one hundredths to S. M. Miller and E. R. Harper, White-pine, Colo.
- 767,893. Hose coupling. W. S. Jewell, Oakland, Cal.
- 767,949. Vehicle tire [consisting of a metallic strip next to the felly, with a plurality of leather strips having rubber cushions between]. H.

Lutz, assignor of two-fifths to B. Harris, both of Hamilton, Ontario.

767,966. Hose coupling. F. A. Silvis and F. J. Backer, Millvale borough, Pa.

## Trade Mark.

- 43,217. Steam packing rings of rubber. The B. F. Goodrich Co., Akron, Ohio. *Essential feature.*—The word SUPERHEAT. Used since July 1, 1904.

ISSUED AUGUST 23, 1904.

- 768,188. Hose binder. J. H. McIntyre and H. Bagshaw, Hartford Conn.
- 768,216. Fountain pen. A. Eberstein, Winthrop, Mass., assignor of one-half to C. Brandt, Boston.
- 768,237. Horseshoe [with cushion pad]. Raymond B. Price, Chicago.
- 768,278. Pneumatic tire [having the inner side of the outer cover composed of a plurality of single strands of gut]. G. H. Hastings, Oporto, Portugal.
- 768,477. Hose repairing lining. J. McKinley, Syracuse, N. Y.
- 768,495. Grip tread for pneumatic tires [consisting of parallel side chains]. H. D. Weed, Canastota, N. Y.
- 768,523. Massage implement. G. Dittmar, Washington, D. C.

ISSUED AUGUST 30, 1904.

- 768,618. Lawn sprinkler. H. F. Neumeyer, Macungie, Pa.
- 768,637. Device for cleaning fluid pens. [Refers to fountain pens.] A. J. Thowless, Newark, N. J.
- 768,684. Pneumatic tire. J. Parmley, Paterson, N. J.
- 768,710. Brush [for use in bathing]. W. Vanderman, Willimantic, Conn.
- 768,779. Fountain pen. H. W. Stone, Brooklyn, N. Y., assignor to A. A. Waterman & Co., New York city.
- 768,850. Tire [of cushion type]. O. L. Leach, Elmwood, R. I.
- 768,891. Machinery for preparing rubber sheets or strips. E. F. Ackerman, Passaic, N. J., assignor to The Okonite Co., Ltd.
- 768,943. Hollow rubber bulb, ball, or analogous article. I. F. Kepler, Akron, Ohio, assignor to The B. F. Goodrich Co.
- 768,944. Hollow rubber article having neck or projections. *Same.*
- 768,945. Rubber-bag body. *Same.*
- 768,981. Rubber type. J. S. Duncan, assignor to Addressograph Co., both of Chicago.
- 768,984. Pump diaphragm. E. George, Jr., New York city.
- 768,985. Finger-hold for penholders. B. B. Goldsmith, New York.
- 769,069. Tire for vehicles. J. H. W. Fitzgerald, Bedford Park, England.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

## GREAT BRITAIN AND IRELAND.

## PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1903.

\* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 27, 1904.]

- \* 7,583 (1903). Pneumatic tire [protected against puncture by a thickened tread lined with special fabric, and having chambers at the side filled with sponge rubber]. I. Tennant, Springfield, Ohio.
- 7,742 (1903). Electric hair brush [involving a rubber insulating pad]. J. S. Collins, Edinburgh.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 4, 1904.]

- 7,919 (1903). Erasing machine. [An eraser of rubber or other material, to be given motion by a compressed air motor.] C. L. Burdick and S. H. Miles, London.
- \* 7,950 (1903). Boot heel [composed of rubber and wear resisting fabrics]. M. Kennedy, Brookline, Massachusetts.
- \* 7,959 (1903). Hoof pad [for use with a "three quarter" metal shoe]. W. J. Kent, Brooklyn, New York.
- 8,087 (1903). Cushion tire for vehicle wheels. J. N. Bages, Brussels, Belgium.
- 8,189 (1903). Pneumatic tire [protected by a belt of overlapping metal plates between the tread and inner tube]. P. W. Meyer and O. E. Kellermann, Chemnitz, Germany.
- 8,198 (1903). Fountain pen. E. Reiser, Hennef, Germany.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 10, 1904.]

- 8,558 (1903). Pneumatic tire [with anti slipping cover of leather provided with projections]. T. Houben, Verviers, Belgium.

- \*8,583 (1903). Seamless toy balloon. V. F. Feeny, London. (Rubber Balloon Co. of America, Brooklyn, New York.)  
 \*8,749 (1903). Nipple for feeding bottle. W. F. Ware, Philadelphia, Pennsylvania.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 17, 1904.]

- \*8,896 (1903). Storm screen for vehicles. J. P. Gordon, Columbus Ohio.  
 8,924 (1903). Flesh rubber [for use in shaving]. S. Mockett, London.  
 \*8,972 (1903). Fountain pen. C. G. Southmayd, West Pullman, Illinois.  
 9,067 (1903). Rotary heel for boots. C. H. Wilkinson, Huddersfield, Yorkshire.  
 9,228 (1903). Pneumatic tire [protected from puncture by a steel plate inside of the tread]. G. Abati, Madrid, Spain.  
 9,343 (1903). Vehicle tire [pneumatic or solid; provided with two tread surfaces to prevent side slipping]. M. Emquem, Paris, France.  
 9,354 (1903). Driving rope for machinery [made of canvas or other textile material, impregnated with Gutta-percha, Balata, or India-rubber]. W. Shaw, trading as R. Lloyd & Co., Birmingham.  
 9,330 (1903). Nursing bottle [having an opening at each end to facilitate cleaning, and provided with rubber stoppers]. H. P. Thompson, London.  
 \*9,331 (1903). Golf ball [composed of a core of wound rubber thread, surrounded by casing of Gutta-percha]. C. E. Boutwood and G. Browning, Hinsdale, Illinois.  
 9,332 (1903). Rotary heel for boots. J. H. Weisenaar, Haarlem, Holland.  
 9,373 (1903). Pneumatic tire [with spring horns for preventing side slip]. W. D. Sainsbury, Dublin.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 24, 1904.]

- 9,468 (1903). Removable tread for pneumatic tires to prevent slipping. C. H. Wilkinson, Huddersfield.  
 \*9,484 (1903). Atomizer, for applying medicaments. C. A. Tatum, New York.  
 \*9,594 (1903). Cushioned horseshoe. E. L. Abbott, New York.  
 9,625 (1903). Portable vapor bath. N. Wright, Paris, France.  
 \*9,729 (1903). Hypodermic syringe. H. H. Lake, London. (Parke, Davis & Co., Detroit, Michigan.)  
 \*9,839 (1903). Protective band of leather for rubber tires. L. C. Cummings, Pasadena, California.  
 9,840 (1903). Vehicle wheel, rendered resilient by pneumatic cushions between the rim, and the tire and between the ends of the spokes and the hub. A. Papleux, Paris, France.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 31, 1904.]

- 9,952 (1903). Pneumatic tire and special method of attaching to the rim. J. Muskett, Pendleton.  
 9,972 (1903). Sole and heel protector. H. J. Bubb and J. H. Cox, Greenock.  
 \*9,997 (1903). Bottle stopper. G. G. Campbell, Rochester, New York.  
 10,014 (1903). Golf ball. C. T. Kingzett, Chislehurst, and F. J. Lovegrove, Sutton.  
 10,059 (1903). Pneumatic tire. [Relates to a method of retaining the cover on the rim]. L. Johnstone, Prestwich.  
 10,076 (1903). Pneumatic tire. T. S. Rose, Uxbridge, and T. N. Harwood, Hounslow.  
 10,092 (1903). Hose coupling. E. Giersberg, Berlin.  
 10,244 (1903). Convertible cloak, stretcher, hammock, bed, and float. P. Haller and J. T. Ellis, London.  
 10,247 (1903). Repairing tires and other rubber articles. A. A. Wade, Leeds.  
 10,292 (1903). Solid endless rubber tire, held in position by flanges. E. Martin, London.  
 10,439 (1903). Elastic stocking. T. Burgum, Canning town, Essex.

#### PATENTS APPLIED FOR—1904.

- Space is given here only to Applications for Patents on Inventions from the United States.  
 16,518. L. G. Sloan, London. Fountain pen. (The L. E. Waterman Co., New York.) July 26.  
 17,313. Raymond B. Price, London. Process for devulcanizing rubber waste. (Communicated from the United States.) Aug. 8.  
 17,721. F. C. Brown, London. Fountain pen. (Communicated from the United States.) Aug. 15.  
 17,767. H. M. Mannheim, St. Louis, Missouri. Fountain pen. Aug. 16.

## GERMAN EMPIRE.

### DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER].

- 228,516 (Class 30b). Rubber band having an eye at either end. A. Jacobsburg, Hannover. July 27.  
 228,863 (Cl. 33c). Hair curler of rubber with a longitudinal slit, having at the end a knob or an eye. E. R. Godward, Inverengill. July 27.  
 229,007 (Cl. 61a). Rubber air pump attached to a Rauchhelm tire, to inflate the tire and an exhaust valve worked by hand to discharge the air. Dräger-werk. H. & B. Dräger, Lübeck. July 27.  
 228,970 (Cl. 77a). Swimming device, consisting of two collapsible spheres of rubber connected by a three ended tube having a common mouth piece. M. Ostermaier, Munich. July 27.  
 229,743 (Cl. 44a). Wash ball, consisting of stuff provided with soft rubber. H. Kramer, Dresden. Aug. 3.  
 230,114 (Cl. 27a). Bellows made of rubber proofed texture. Frau Ludwig Hupfeld, Leipzig. Aug. 10.  
 230,058 (Cl. 30f). Pneumatic beater for massage purposes, involving an air cushion. Dr. H. Kastl, Munich. Aug. 10.  
 232,250 (Cl. 30g). Collapsible rubber bag to catch spittle or ejections from the stomach. C. Eigendorff, Rixdorf. Aug. 10.  
 230,259 (Cl. 34g). Bed clothes holder of two clamps of wire connected by rubber bands. P. Westermann, Hannover. Aug. 10.  
 230,658 (Cl. 63c). Annular repair piece for separated tire inner tubes. Hannoversche Gummi-Kamm Compagnie Akt. Ges. Aug. 17.  
 230,734 (Cl. 63c). Non slipping detachable protective strip for air tires. Same. Aug. 17.  
 229,043 (Cl. 30g). Nursing bottle fittings. H. Boesch, Cologne a/Rh. July 27.  
 229,044 (Cl. 30g). Nursing bottle fittings. Same. July 27.

### APPLICATIONS FOR PATENTS.

- 24,425 (Class 15c). Rubber skin pantograph. C. Mierisch, Leipzig. July 27.  
 30,067 (Cl. 39b). Process for producing thin Caoutchouc sheets. A. Blossier, Paris, France. July 27.  
 18,096 (Cl. 63d). Elastic wheel tire. R. S. Graham and W. M. Perkins, New York. July 27.

## THE FRENCH REPUBLIC.

### PATENTS ISSUED (WITH DATES OF APPLICATION).

- 340,670 (Feb. 23). Société Franz Clouth Rheinische Gummiwaarenfabrik. Vulcanizing receptacle with screw top cover, provided with an inside press, and operated from the outside.  
 340,796 (Feb. 27). J. A. Mays. Tread for pneumatic tires.  
 340,744 (Feb. 26). Société Duquesne et Dockès. Toys or other objects made of dilated India-rubber, containing several separate compartments.  
 340,886 (March 2). A. J. Grossmann and G. K. Wollaston. Anti slipping device for pneumatic tires.  
 340,924 (Feb. 26). J. Spyker. Pneumatic tires.  
 341,034 (March 8). M. V. B. Rush. Tire for vehicle wheels.  
 341,051 (March 9). Société H. Büssing. Pneumatic tire having a plurality of compartments.  
 341,172 (March 5). R. Bobet. Pneumatic tires with sewed canvas.  
 341,196 (March 11). Société Industrielle des Téléphones. Manufacture of electric conductors, single and multiple, with longitudinal textile cores and spiral metallic windings.  
 341,013 (March 3). E. H. Fayolle. Process for preparing a substance resembling Gutta-percha.  
 340,930 (March 3). R. Robitschek. Materials for bandage or tape dressings and process for their manufacture.  
 341,009 (March 7). R. Appleyard. Golf ball.  
 341,302 (March 18). C. Dalmas. Anti slipping protector for rubber tires.  
 341,595 (March 25). S. J. Lilley and E. P. Bucton. Elastic tire.  
 341,683 (March 26). J. Jouy. Pneumatic collar for horses.  
 341,494 (March 21). J. Mitchell. Pneumatic tire for cycles and vehicles.  
 341,490 (March 23). G. M. Signoret. Pneumatic shoe with multiple air compression chamber.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16, avenue de Villiers, Paris, at 50 cents each, post-paid.]



## RUBBER INTERESTS IN EUROPE.

LEYLAND AND BIRMINGHAM RUBBER CO., LIMITED.

AT the annual general meeting (Leyland, England, August 17) the accounts presented showed a gross profit for the year ending June 30 of £13,789 *os. 2d.* This is a considerably lower figure than in former years, which is accounted for by the directors by reason of the exceptionally high cost of raw materials and the impossibility, in the face of competition, of advancing their selling prices proportionately. Otherwise, the company's business was in good condition, the volume of trade having been increased and desirable new markets having been secured. A high degree of efficiency of the plant had been maintained and the cost of considerable improvements charged to revenue. The dividends for the year aggregate 5 per cent. on share issues of £233,557, which would absorb £11,677 17s. After deducting for reserves and depreciations, a balance of £3350 5s. 9d. was carried over, against a balance last year of £6445 11s. 4d. This completes the sixth year of operation of the consolidated companies, the rate of dividend hitherto having been as follows:

1899.	1900.	1901.	1902.	1903.
6¼ %	6¼ %	7½ %	7½ %	8¾ %

The directors reported that, while not discouraged at the present situation, they felt that they would not be justified in looking for any marked improvement in the near future, in view of the abnormal price of raw material still ruling.

## RUBBER PAVING IN LONDON—A CORRECTION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We observe in your issue of September 1, 1904, that in an article on page 415, relating to rubber paving laid in England and other places, you make the statement that the relaying of the rubber paving at Euston station was carried out by the North British Rubber Co.

This statement is inaccurate, as we beg to inform you that the recent relaying was carried out by this company. We remain, Dear Sir, yours faithfully,

THE INDIA RUBBER, GUTTA PERCHA AND  
TELEGRAPH WORKS CO., LIMITED.

Silvertown, London, E., September 14, 1904.

## NEW FEATURE OF A GREAT RUSSIAN FACTORY.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Some years ago I wrote for your columns some facts about the Russian-American India-Rubber Co. (St. Petersburg) as gleaned by myself during a visit of nearly two months with them. Since those days I have visited this great establishment several times. Each visit has increased my knowledge of their methods and with increased knowledge comes increased admiration. In an article now under way I will try and give you some definite and correct facts, historical and personal, which may be of interest to your readers.

At this time I write simply to tell you of a new departure made by them, an addition to their efforts to make good men and women, as well as good and faithful workers. You have been told of their nursery, kindergarten, and advanced school; now to these has been added a country home for their operatives. They call it "Erholungs-Haus," or recreation house. It is located in a healthy and handsome estate, about fifty miles from St. Petersburg, called Wolosowa.

The house is handsome in appearance, contains all modern conveniences, both for summer and winter use, and has accommodations for fifty people. Both men and women, who through illness are unable to work and need a rest and a change, are sent to this place at the company's expense, and entertained there for one or two months. During this rest,

while the operative is receiving all the benefits of good air, good food, and hygienic living, his or her pay is curtailed but a little, so that at the end of the period of rest they have not run in debt for the support of those left at home.

A. M. STICKNEY.

Medford, Massachusetts, September 25, 1904.

## GREAT BRITAIN.

THE directors of W. T. Henley's Telegraph Works Co. Limited, have declared an *interim* dividend on the ordinary shares at the rate of 10 per cent. per annum, less income tax, for the half year ending June 30 last, payable September 2. This compares with an *interim* dividend at the rate of 12 per cent. per annum last year.

=The India-Rubber, Gutta-Percha and Telegraph Works Co., Limited, have issued a circular, dated September 1, announcing advances in the prices of rubber goods, varying between 2¼ and 5 per cent.

=W. T. Glover & Co., Limited (Manchester, England), are mentioned as having been awarded a contract for supplying their Diatrine paper insulated, lead covered, and leadless and vulcanized rubber cables to the city of Johannesburg, South Africa, to the extent of more than £100,000 [= \$500,000].

## GERMANY.

THE *Gummi-Zeitung* of September 9 reports having learned by wire, at the moment of going to press, that the hard rubber manufacturers of Germany agreed upon the following advance in prices: A temporary advance of 10 per cent. on hard rubber combs, smokers' articles, razor handles, slabs, rods, tubes, technical and electro-technical articles; also divers articles of hard rubber. On pipe mouthpieces the advance is 25 per cent. The advance takes effect immediately.

=The firm of S. Saul (Samuel Saul, proprietor), manufacturers of surgical rubber goods, at Aachen, on September 3 celebrated the twenty-fifth anniversary of one of its foremen. Many presents from the firm, officers and employés, and tokens of honor were received by him. A reception, held at the Dom Hotel, joyful and harmonious in nature, gave evidence of the spirit of good feeling existing between employer and employés.

## CONGO CONSUL TO THE UNITED STATES.

WITH a view to strengthening the commercial and friendly relations between the United States and the Congo, King Leopold has appointed Mr. James Gustavus Whiteley as consul of the Independent Congo State in this country. This is the first consular representative of the Congo appointed in the United States.

Mr. Whiteley is a newspaper man and author and also a banker. He has represented the government of the United States at several international congresses, is an associate of the Institute of International Law, a fellow of the Royal Historical Society of Great Britain, and a corresponding member of the Society of Diplomatic History of France.

It is not necessary to add that Mr. Whiteley is not in sympathy with the criticisms of the government of the Congo Free State, which have been so pronounced of late, especially in England. On the contrary, he has used his pen in defense of the administration of that country under the sovereignty of the king of the Belgians. Mr. Whiteley's address is No. 223 West Lanvale street, Baltimore, Maryland.

IN *re* Victor Rubber Co.—the old concern, in bankruptcy—several creditors' meetings were held during the past month at Springfield, Ohio, but without any definite agreements being reached in this exceedingly complicated case.

## RUBBER INDUSTRY IN MASSACHUSETTS.

THE eighteenth annual report of statistics of manufactures of Massachusetts, issued by the bureau of statistics of labor of that state, covers the year 1903, in comparison with which figures are given for the preceding year. These reports are not presented as a complete census of Massachusetts industries, but comprise only those establishments from which detailed statements actually have been received. The percentage of factories reporting, however, is so great as apparently to justify the conclusions drawn as to relative industrial conditions in the state, comparing one year with another. Under the head "Rubber and Elastic Goods" details are given in regard to 47 establishments, from which reports have been received annually for some time past, and THE INDIA RUBBER WORLD has summarized, in the table herewith, the figures not only in the current report, but in the preceding returns back to 1900. The result is to show a steady advance in the Massachusetts rubber industry.

The item of "Capital devoted to production" may require a world of explanation. Under the system employed by the Massachusetts bureau of statistics, the term "capital" does not relate to the amount of share capital of a company, but to the actual value of assets as reported by a company, on the same basis, year after year. The amount is variable, therefore, even where no change has been made in the amount actually invested in a business. For instance, the showing of assets includes cash and bills receivable, and value of raw materials and manufactured stock in hand at the date of making the report for any given factory, and these items are especially variable.

The statistics of wages paid do not include the compensation of officers, clerks, or other salaried persons. The "average yearly earnings" are arrived at by dividing the total amount of wages paid by the average number of employes.

It is apparent, from the computations made by the Massachusetts bureau, that the increase in the value of products in rubber industry since 1900 has been much greater than in the total industries in that state. In other words, starting with the value of products of all rubber factories in Massachusetts in 1900, as shown by the United States census, and considering the general average of increase of production since, as estimated by the Massachusetts bureau, the total rubber goods production in 1903 would have worked out at a little over \$40,000,000. As a matter of fact, however, the 47 rubber factories reporting—and believed to represent 80 per cent. of the total rubber goods production in the state—show products for

1903 of a value exceeding \$48,000,000. On the other hand, the machinery and metal trades make a much smaller showing in actual results for 1903 than the result obtained by estimating by averages.

## A NATIONAL RUBBER CENSUS NEXT YEAR.

THE United States census bureau, which now has become a permanent establishment, instead of having to be reorganized every ten years, is planning a census of manufactures next year, on the idea that the development of the country's industrial resources makes desirable accurate information regarding the leading lines of production oftener than once in ten years. Schedules of inquiries will be mailed, therefore, to all manufacturers in the more important branches, including India-rubber, before January 1, and after that date the mail canvass will be supplemented by the work of special agents in the field. With every schedule is given the pledge of the census bureau that all answers will be held absolutely confidential. No publication will be made of the census reports disclosing the names or operations of individual establishments, the information being used only for the statistical purposes for which it is given. Manufacturers may answer fully the list of inquiries with the assurance that nothing will be divulged.

## RUBBER HORSESHOES AND OTHERS.

"TWO million kegs, containing 100,000,000 horseshoes, are used annually in the United States and Canada, approximately speaking," said S. L. Martin, who represents an iron manufacturing concern of the east. "That was about the number used last year, and all the hue and cry about rubber shoes and automobiles is raised in the face of a constantly increasing sale of horseshoes."

"As a matter of fact, the use of rubber horseshoes, which is confined almost altogether to the large cities, is a help to manufacturers. The sale of old fashioned shoes goes on increasing, and in addition to that the manufacturers have an opportunity to make the steel portion of rubber shoes. All so called rubber shoes have a rim of steel in them, and it is usually of better metal and gives the manufacturer a wider berth for profits than the old fashioned shoe."

"There is a class of people, though, who write essays against rubber horseshoes and decry them in every possible way, but like most persons who oppose progress, they stand in their own light and of course cannot see."—*Louisville Courier-Journal*.

THE following estimate is put out by the Fibre Cushion Horse Shoe Co., Inc. (New York): "There are about 17,000,000 horses in the United States, and the annual consumption of horseshoes in this country is over 96,000,000 sets (384,000,000 horseshoes)."

C. H. HANSON, one of the largest manufacturers of rubber stamps and stencil goods in the country, began business in Chicago in 1865, adding rubber goods at a later date. He has been for a number of years consul for Denmark in Chicago, for a district containing many Danish Americans, and has just been reappointed to this position, in addition to which King Christian of Denmark has conferred upon him the decoration of Knight of Dannebrog.

THE RUBBER INDUSTRY IN MASSACHUSETTS.

DETAILS.	1900.	1901.	1902.	1903.
Establishments reporting.....	47	47	47	47
Owned by private firms.....	22	20	17	16
Number of partners.....	46	44	37	36
Owned by corporations.....	24	26	29	30
Number of stockholders.....	1,052	1,195	1,260	1,314
Owned by industrial combination.	1	1	1	1
Capital devoted to production....	\$14,062,929	\$15,894,533	\$13,817,419	\$12,907,312
Value of stock used.....	\$16,917,786	\$17,494,983	\$19,073,505	\$20,031,456
Value of goods made.....	\$31,123,230	\$32,613,258	\$43,995,474	\$48,597,297
Average number wage earners....	10,685	11,044	12,065	12,479
Smallest number during year.....	8,662	9,784	9,514	13,095
Largest number during year.....	12,109	12,648	13,095	13,459
Total wages paid.....	\$4,485,961	\$4,910,405	\$5,471,349	\$5,674,595
Average yearly earnings.....	\$419.84	\$444.62	\$448.52	\$454.73
Average days in operation.....	269.96	269.81	284.94	289.39
Proportion of business done, compared with capacity.....	65.32	68.91	74.77	75.83

## NEWS OF THE AMERICAN RUBBER TRADE.

## DAVIDSON RUBBER CO. INCORPORATED.

THE long established druggists' sundries firm, the Davidson Rubber Co. (Boston), have become a corporation, under Massachusetts laws, with \$200,000 capital. The directors are Rhodes Lockwood, president and treasurer; Rhodes G. Lockwood, assistant treasurer; William N. Lockwood, and Francis Gray. The corporation has taken title to the extensive manufacturing property, in the Charlestown district, hitherto occupied by the business. The following statement of condition is supplied in connection with the incorporation of the business, it being understood that the same is based upon a very conservative valuation:

ASSETS.		LIABILITIES.	
Plant.....	\$ 84,000	Capital.....	\$200,000
Merchandise.....	130,000	Bills payable.....	68,100
Bills receivable.....	39,100		
Cash.....	15,000		
Total.....	\$268,100	Total.....	\$268,100

The company owes its name to Dr. Herman E. Davidson (1815-1890), who, although he was the inventor of the Davidson syringe, would never accept any pecuniary benefit from it, holding that it was against the ethics of his profession to engage in the sale of any patented articles used in the practice of medicine. The syringe was perfected by his brother, Charles H. Davidson, who patented it and began its manufacture. In 1860 the latter died, after having sold to his nephew, Hamilton D. Lockwood, his patents, tools, and materials, which were utilized in carrying on the manufacture under the name Davidson Rubber Co. In 1868 Mr. Lockwood took into partnership his brother Rhodes Lockwood, and died in 1875, leaving the latter sole proprietor of the business, but on January 1, 1876 another brother, Philip C. Lockwood became interested, under the firm name R. & P. C. Lockwood. Nineteen years later Philip retired, selling his interest to his brother Rhodes, who took his son William N. into partnership with him, another son, Rhodes G., being admitted to the firm later. The firm name Rhodes Lockwood & Co. was adopted, for the ownership of the property, though during the whole time the manufacturing and selling business has been conducted under the name of the Davidson Rubber Co. Now that a corporation has been formed, it has taken title to the property, as above stated. It might be mentioned that Rhodes Lockwood's first connection with the business really was in 1858, when for awhile he was employed in the office of his uncle Charles H. Davidson.

The production of this company has been extended until it embraces a wide line of druggists', surgical, and stationers' goods, in soft and hard rubber, for which a high reputation has been maintained. It is stated that nine-tenths of the crude rubber bought for consumption by this company is of the finest Pará grades.

## HARRISON-WILLIAMS RUBBER CO.

THE Williams Rubber Co. (Los Angeles, California), incorporated in April, 1903, has changed its name to The Harrison-Williams Rubber Co. H. O. Harrison, who has been connected with the business from the beginning, becomes president of the company, with T. J. Williams vice president, and W. G. Williams secretary and treasurer. They are large dealers in tires, handling the Goodrich, Diamond, G & J, Fisk, and Dunlop makes, in southern California and Arizona, and maintaining an extensive tire repair shop, with vulcanizers, molds, etc., to enable

them to repair any of the leading brands of tires. In this respect, they probably have the most complete shop in the United States. The company also handle mechanical rubber goods to a certain extent.

## BOWERS RUBBER CO. PLANNING NEW FACTORY.

THE Bowers Rubber Co. (San Francisco), manufacturers of mechanical rubber goods, have purchased a tract of 12 acres at the junction of the Sacramento and San Joaquin rivers, near Oakland, California, on which they purpose building a new factory. It is stated to be a most desirable site, and building plans are being prepared.

## THE IMPERIAL RUBBER CO. (BEACH CITY, OHIO.)

THIS new company, succeeding two older concerns, as reported recently in THE INDIA RUBBER WORLD, have just completed a new building for office use and stock room, and are in position to engage actively in the manufacture of seamless rubber gloves—red, white, and black, of all sizes; seamless water bottles, syringes, ice bags, finger cots, face masks, etc. They are also prepared to make vehicle tires, besides continuing the manufacture of hard rubber harness mountings, which were a specialty of the Canton Hard Rubber Co., one of the concerns succeeded by the new company.

## REMOVAL OF MULCONROY &amp; CO.

MULCONROY CO., INCORPORATED (Philadelphia), on October 1 removed from Market street to No. 722 Arch street. Prior to removal they had a clearance sale of their retail sundries stock, and hereafter will devote their attention solely to mechanical rubber goods and the manufacture of their extensive line of piston packings.

## TRIBUTE OF EMPLOYEES TO MR. CONVERSE.

A HANDSOME bronze tablet in memory of the late Hon. Elisha S. Converse, founder of the Boston Rubber Shoe Co., at Malden, Massachusetts, has been placed in the office of the company's Edgeworth factory. The money for the tablet was raised by subscription among the employés in all branches of the factories. The tablet is inscribed: "This tablet is erected in the memory of Elisha S. Converse by the employés of Factory 1 of the Boston Rubber Shoe Company. June, 1904." W. H. Johnson, E. A. Rhoades, and A. Copelin, overseers in the factory, were the committee in charge of its installation.

## RUBBER GOODS AT CANADIAN FAIRS.

THE Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, was well represented by displays of their products at two recent exhibitions of importance—the Canadian National Exhibition, at Toronto, and the Dominion Exposition, held this year at Winnipeg. The latter town, which thirty years ago was only a trading station of the Hudson Bay Co., has now a population of 75,000, and the fair there was a large one and liberally attended. The rubber exhibit referred to was installed by The Winnipeg Rubber Co., Limited, who are the Western representatives of the Toronto company above named. The display received one of the two gold medals offered for premium honors in the Winnipeg Manufactures building. The district of which Winnipeg is the center is rapidly filling up with settlers from the United States, who last year numbered 49,000. The wheat crop this year is expected to yield 75,000,000 bushels, and the region already affords an important market for manufactures.



## MR. HIGHET LEAVES THE RUBBER TRADE.

THE following announcement is made by the American Hard Rubber Co. (New York), in relation to a member of their office staff who possesses a host of friends in the trade:

TO THE TRADE: We regret to announce that Mr. Frank B. Highet, who has been identified with us in the hard rubber business for the past 25 years, has decided to sever his connection with this company on this date. Mr. Highet has associated himself with Mr. Percy Gardner, to engage in the manufacture of fancy narrow fabrics and feather stitch braid, and he leaves us with our sincere wishes for his success and continued prosperity. Yours very truly, AMERICAN HARD RUBBER CO.

New York, September 1, 1904.

Mr. Highet has become a member of the firm Gardner & Highet Co., No. 447 Broadway, New York, with mills at Providence, Rhode Island.

## THE RUBBER INDUSTRY IN TORONTO.

SAYS the Toronto *Globe*: "One of the most striking evidences of industrial expansion in Toronto is provided by the Gutta Percha and Rubber Manufacturing Co. Ten years ago this company gave employment to 75 artisans; to-day the number on their pay roll is nearly 600—eight times as many. To fill the demand for the products of the works it has been necessary to add considerably to the factory every year, until now the company own a number of mammoth shops in Parkdale, covering several acres. Not only are the company doing an immense trade with all parts of the Dominion, but they are exporting large quantities to the British Isles, Australia, New Zealand, South Africa, and the East."

## AFFAIRS OF THE GUM-CARBO CO.

THE Gum-Carbo Co., incorporated in Texas in 1902 to manufacture from petroleum, combined with certain other materials, a substitute for rubber, suitable especially for use in hard rubber goods, for insulation work, and for paints and varnishes [See THE INDIA RUBBER WORLD, April 1, 1902—page 230] have been at work, since April last, erecting a factory plant near Gulfport, Mississippi—a point on the gulf of Mexico not far from New Orleans. At this time an office building, distilling house, and a three story main building 125 x 175 feet are nearly completed. On August 17 fire in the town of Gulfport destroyed the temporary office of the company there, causing the loss of their correspondence files, mailing lists, and samples of their products, which will cause some inconvenience for a limited time. Secretary R. E. Humphreys advises THE INDIA RUBBER WORLD:

"Our material vulcanizes with or without any rubber in compounds; in paint it is superior to any of the bitumens, and also lends superior qualities to roofing over bitumen mixtures. Flexibility is characteristic, but as yet no considerable amount of elasticity has been developed in our material. Not having any product to market, we have not enlisted the interest of rubbermen. We know they will take some of our material, probably more than we can spare for some time. We must turn out some paints and varnishes, and such goods as will probably pay us better than selling our crude uncompounded."

## Y. M. C. A. WORK IN RUBBER FACTORIES.

THE Young Men's Christian Association of Trenton, New Jersey, endeavors to keep in touch with the men employed in the factories of that city by means of a committee representing the association in each establishment. The committees in the various rubber factories are as follows:

Crescent Belting and Packing Co.=Thomas Keating, Charles Wilking, H. C. Everingham.

Empire Rubber Manufacturing Co.=Arthur Scarborough, William D. Van Horn, J. Oliver Smith.

Grieb Rubber Co.=Robert Marshall.

Hamilton Rubber Manufacturing Co.=Jesse Sooy, Wilbur Cain, Edward Robbins, Uriah Pittman.

Home Rubber Co.=Percy Gifford, Charles E. Troupe, John E. Mullen.

Joseph Stokes Rubber Co.=Paul Gunkel, H. S. Gray, Dunbar Phillips.

Trenton Rubber Manufacturing Co.=E. O. Titus, G. H. G. Chamberlain, John Evans.

United and Globe Rubber Manufacturing Cos.=Malcolm Salter, Charles Brady.

Vulcanized Rubber Co. (Morrisville)=Everett Townsend, Bert Wilkes, A. R. Ellis, Harry Burns.

Whitehead Brothers Rubber Co.=Lyman L. Titus, John Brink, T. W. Cubberley, J. C. Coudle.

## THE MARCH UPON CLAREMONT.

THE Woonsocket *Reporter* on September 15 contained a report from Bristol, Rhode Island, stating: "A large number of skilled rubber workers have left Bristol for new employment in a rubber factory at Claremont, N. H."

The Manchester *Union* of the same date contained a report from Claremont to the effect that the town had been overrun with foreigners, who had arrived there from Bristol, to go to work in the rubber department of the Maynard shoe factory. They claimed that a representative of Mr. Maynard had visited Bristol and given out that 300 rubber workers were required. The representative referred to told the *Union* reporter that he had contracted for 15 workers, of whom 13 had arrived and were then in the factory; the others had come without suggestion from him. Most of the new arrivals were without money, and had to be assisted back to Bristol.

## NEW YORK STOCK EXCHANGE TRANSACTIONS.

## UNITED STATES Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending July 23	10,195	19 3/8	18	3,277	78 1/8	73 1/8
Week ending July 30	3,755	19 3/8	19	1,940	76	73 1/8
Week ending Aug. 6	1,220	19 3/8	19 1/8	420	75 3/4	74 3/4
Week ending Aug. 13	1,513	19 3/8	19 3/4	2,623	75 3/4	74 3/4
Week ending Aug. 20	1,779	19 3/8	18 3/4	679	76	75 3/8
Week ending Aug. 27	1,300	19 3/8	18 3/4	1,600	76	75 3/4
Week ending Sept. 3	1,290	19 3/8	18 3/4	1,181	75 3/4	73 3/8
Week ending Sept. 10	2,195	19 1/2	18 3/4	655	75	74
Week ending Sept. 17	8,245	20 3/8	19 1/2	2,136	75 3/4	74
Week ending Sept. 24	2,040	20	19 3/8	960	74 3/4	73 3/8

## RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending July 23	3,800	19 3/8	17 3/8	875	79 1/2	78 1/8
Week ending July 30	825	18 1/2	18	385	79	78 1/8
Week ending Aug. 6	50	18 1/8	18 1/2	100	79	79
Week ending Aug. 13	760	18	17	200	79 1/2	79 1/2
Week ending Aug. 20	1,430	19	17 1/2	750	81	79 1/2
Week ending Aug. 27	900	18 1/2	18	100	81	81
Week ending Sept. 3	300	18	17 1/2	780	82	81
Week ending Sept. 10	2,465	19 3/8	18 1/2	165	81	81
Week ending Sept. 17	10,915	20 1/2	19 3/8	20	82 1/2	82
Week ending Sept. 24	1,870	19 1/4	19	35	82 3/8	82 3/8

## AFFAIRS OF GEORGE WATKINSON &amp; CO. (PHILADELPHIA).

THE affairs of George Watkinson & Co. (Philadelphia), in bankruptcy, appear to have remained at about the same stage since the last report on the subject in THE INDIA RUBBER WORLD some months ago. After the meeting of creditors in the early part of July, when the status of the numerous claims was made known to the trustees of the estate—the Provident Life and Trust Co.—the latter took exception to the payment of several of the claims, on the ground that they were not *bona fide*. Their contentions were set forth in a petition addressed to the referee, Richard Hunter. After its receipt, for some

time no meetings were called, it being thought advisable not to convene a session of creditors until the objections of the trustees were thoroughly gone over and an opinion given as to whether these objections should be sustained. In the meantime, no dividends have been paid and no action taken for the benefit of the creditors. A meeting has now been called for the first week in October, when it is thought something definite may be done.

#### THE "OPEN SHOP" IN CHICAGO.

AFTER having been shut down for two weeks the Chicago factories of the Mechanical Rubber Co. and Morgan & Wright resumed work on September 12, without a renewal of the agreement with the Rubber Workers' Union which expired on August 31. On the expiration of the old agreement the two concerns declined to enter into further contract relations with the union, claiming that the union had permitted its members to go on strike four times during the life of the agreement. After the shutdown the companies wrote to their former employes, offering to reinstate them as individuals, but not as members of the union. The first answer to this course was the declining of a strike by the union, but finally enough of the former employes applied for work to enable the factories to be reopened at the time stated. Meanwhile extensive repairs had been made at the factories.

#### A PLEASANT OUTING OF RUBBER MEN.

THE foremen and clerks and executive staff of the Passaic factory of the New York Belting and Packing Co., Limited, had their seventh annual clambake, on September 3, at Donnelly's Grove, College Point, Long Island, and it proved a most enjoyable occasion for the 150 or more, including guests, who participated. The party arrived at College Point about 11 A. M. and left for the return home at 6 P. M. A chowder breakfast was served upon their arrival at the grove, and the clambake was ready at 2 o'clock. Breakfast was followed by a baseball game between a team from the hose room and another representing the rest of the factory; five innings were played and the factory team won by a score of 9 to 8. Other sports during the day were: One hundred yard dash, sack race, putting the shot, and throwing the hammer. A number of the party went bathing. Among those present were Mayor Greenlie, of Passaic; City Attorney Sullivan, Collector A. T. Zabriske, and Councilman James King, and Robert G. Bremmer, editor of the *Passaic Herald*. The latter experienced, while bathing, what is asserted to be his second narrow escape from drowning this year. Everybody in the party wore a silk badge on which was mounted a photograph of E. J. Coughlin, the general factory manager, as an evidence of the high esteem in which he is held by the company's employes. The committees in charge of the outing were liberally complimented upon its success. They were:

*On Arrangements.*—E. J. Coughlin and I. P. Blackman, *ex-officio*; Joseph Spitz, chairman; E. C. Gruehl, treasurer; R. Robertson, J. King, F. Abele, G. McNiff.

*On Games.*—F. Abele, chairman; Richard Banks, William Troutwelle;

The Editor of THE INDIA RUBBER WORLD regrets that pressing business at a distance made impossible his acceptance of a complimentary invitation to the clambake.

#### NEW INCORPORATIONS.

DAVIDSON Rubber Co. (Boston), August 31, 1904, under Massachusetts laws; capital, \$200,000. Further details in another column.

—The Columbia Rubber Co., July 12, 1904, under the laws of the District of Columbia; capital authorized, \$500,000. Incorporators: William McDonald, Simon Hamburger, E. W. McCormick, E. M. Freeman, B. E. T. Kretschmann. A Washing-

ton corporation agency advises THE INDIA RUBBER WORLD: "The Columbia Rubber Co. does not expect to do any business, the parties interested having discontinued soon after securing the charter."

—The Pacific Rubber Stamp Co. (Los Angeles), August 22, 1904, under California laws; capital, \$10,000. Incorporators: C. D. Hudson, George S. Greene, F. B. Kitts, O. L. Olshausen, and J. M. Hutchinson.

#### TRADE NEWS NOTES.

THE Boston Belting Co. announce that they have concluded arrangements with the Jewell Belting Co. (Nos. 175-177 Lake street, Chicago), to act as their exclusive Chicago selling agents. The Jewell Belting Co. were established in 1848 as manufacturers of leather belting, their main office now being at Hartford, Connecticut. They are also large handlers of rubber belting, of which line their Chicago store is an important distributing center. They will carry a full line of the Boston Belting Co.'s mechanical rubber goods.

—A further meeting of the manufacturers of mechanical goods, whose first step toward the organization of an association was mentioned in the last INDIA RUBBER WORLD, is scheduled for the evening of October 6, at the Waldorf-Astoria, New York.

—The managers of branch stores of the United States Rubber Co., who meet for consultation twice a year, held their fall conference about the middle of September in St. Louis. Not only was this a convenient point, but the managers had an opportunity to see the World's Fair.

—The La Crosse Rubber Mills Co. (La Crosse, Wisconsin), have ordered considerable new machinery, with a view to extending their plant and taking on the manufacture of tires and some mechanical rubber goods. It is understood that for the present no enlargement of the factory building is intended.

—Fisk Rubber Co. (Chicopee Falls, Massachusetts) have decided to establish at Chicago a Western department, in charge of Frank C. Riggs, to handle their trade west of Buffalo. The Chicago local branch, at No. 54 State street, will remain in charge of Ben Pratt, as manager.

—Boston Woven Hose and Rubber Co. have been awarded a contract for supplying the city of Cleveland, Ohio, with 5000 feet of 2½ inch rubber lined cotton fire hose, for which bids were opened on August 26.

—The foundry of A. Adamson, at Akron, Ohio, has lately closed a contract with the La Crosse Rubber Mills Co. (La Crosse, Wis.), including six hydraulic presses, one being a 44" X 44" multiple; also, a 4" tubing machine. The Adamson foundry is very busy in all departments, with the outlook good for business throughout the winter.

—The foremen of the various departments of the rubber factory of L. Candee & Co. (New Haven, Connecticut), to the number of 51, dined at Savin Rock on the evening of September 10, having as guests of honor Messrs. J. H. Pearce and G. E. Bailey, respectively superintendent of the factory and treasurer of the company. The occasion was a thoroughly enjoyable one.

—The Joseph Banigan Rubber Co.'s Buffalo agency will carry a stock of "Banigan" and "Woonasquatucket" goods at Mansfield, Ohio, during the sizing season, in order that more prompt deliveries may be made in that territory, when the season is on, that it is possible to make from Buffalo. The stock will be in charge of Charles A. Eldridge, at No. 217 North Main street, Mansfield.

—The Preston Hose and Rubber Co. are removing their factory equipment, which has not been active for some time past, from Marlboro to Woodville, Massachusetts.

=In the United States court at Denver, Colorado, Judge Hallett recently dismissed a suit brought by the United States Rubber Co. to enforce the collection of a claim for \$40,000 against a customer, on the ground that the plaintiff company had failed to comply with the Colorado statute requiring corporations formed under the laws of other states to pay a corporation tax there and to name a local agent to sue or be sued.

=Fabric Fire Hose Co. (New York) have been distributing to their friends in the trade a handsome souvenir in the shape of a leather card case, embossed with the company's trade mark.

=The regular quarterly dividend of  $1\frac{1}{2}$  per cent. on the preferred shares of the American Chicle Co. is payable on October 1. The regular monthly dividend of 1 per cent. on the common shares was paid on September 20.

=W. H. Salisbury & Co. (No. 107 Madison street, Chicago), so long engaged in the distribution of mechanical rubber goods, have taken the account of the Pennsylvania Rubber Co. (Jeannette, Pa.)

=Mr. H. M. Sadler, Jr., formerly general manager of the United States Rubber Co., and for some time past engaged in the banking business in Wall street, it is reported, is about to become connected with the Banner Rubber Co. (St. Louis).

=Mr. R. M. Howison, of R. M. Howison & Co., Snow Hill, London, European agents for the Pennsylvania Rubber Co. (Jeannette, Pa.), was a visitor to the United States during the latter half of September.

=C. W. Barrett, who has for some time represented the Boston Woven Hose and Rubber Co. in the southwest, will hereafter represent them in St. Louis and adjoining territory, with headquarters at St. Louis.

=Labor day (September 5) was celebrated at Lambertville, New Jersey, with a carnival in which the whole city took part, instead of the celebration being confined to a demonstration by organized labor. There was an oration by the Hon. Francis B. Lee, of Trenton, on the industrial progress of the city, and a procession through streets decorated in gala attire. Prominent features of the procession were floats representing the Lambertville Rubber Co. and the New Jersey Rubber Co.

=The New York branch of the Tennant Auto-Tire Co. (Springfield, Ohio) reports having equipped to date over 800 automobiles with the Tennant puncture proof tires. The company expect next year to turn out a full line of tires built on the same principle for motor cycles.

#### PERSONAL MENTION.

HERR ARTHUR KRAACK, manager of the Russian-American India-Rubber Co. (St. Petersburg), was a recent visitor to the World's Fair at St. Louis, and while in the States favored the offices of THE INDIA RUBBER WORLD with a call.

=Recent visitors to THE INDIA RUBBER WORLD office have been Mr. Francis Crosbie Roles, editor of the *Times of Ceylon* (Colombo), who came to America as official visitor to the Ceylon Court at the World's Fair, and Mr. M. Kelway Bamber, government chemist for Ceylon, who also was on an official mission to the fair.

=Mr. Isidor Frankenburg, the head of the important rubber manufacturing firm of I. Frankenburg & Sons, Limited, of Manchester, England, and a member of the Society of Chemical Industry, was in attendance at the society's annual meeting in New York, which was begun on September 7. —Mr. Walter F. Reid, of Surrey, a consulting chemist and the inventor of "Velvrl" and some other compounds of interest to the rubber trade, was also in attendance, the British visitors in all numbering about a hundred.

=Mr. George H. Hood, of Boston, so long a prominent

figure in the rubber industry, has returned from an automobile tour of Europe, which consumed most of the summer, and extended through Great Britain, France, Switzerland, and Belgium.

=Mr. Ephraim L. Corning, a director in the Boston Rubber Shoe Co., who for a number of years past has resided in Switzerland, is making one of his periodical visits to the United States.

=Mr. Isaac B. Markey, secretary of the Eureka Fire Hose Co. (New York), whose illness was reported in the last INDIA RUBBER WORLD, has since recovered sufficiently to allow him to return to his office.

=Mr. James Bennett Forsyth, of the Boston Belting Co., has had printed a strong argument for more liberal treatment by the government of the merchant marine, in a little pamphlet bearing on its cover a picture of the United States flag, with the inscription: "The flag that is about to become extinct upon the ocean highways of the world." The contents are made of pointed paragraphs of which this is a specimen:

The delegates to the Pan American Congress in this country had to travel by way of Europe to reach America, and we are thousands of miles nearer in a direct line.

Of what use is a Pan American Congress without ships?

=It is reported that the executors of the estate of the late Elisha S. Converse have discovered personal property to the amount of \$1,500,000, the existence of which was not before suspected by them. It does not appear that the property was concealed in any way, but the executors learned of it only by going over the details of the estate.

=Mr. Harold P. Fuller, of Boston, one of most popular of the young men in the employ of the New York, New Haven and Hartford Railroad Co., has given up railroading to enter the rubber business, having accepted a position as salesman for the products of the E. H. Clapp Rubber Co.

#### A VISITOR FROM SILVERTOWN.

MR. ROBERT KAYE GRAY, managing director of the India-Rubber, Gutta Percha, and Telegraphs Works Co., Limited (Silvertown, London), was in attendance last month at the International Electrical Congress, at St. Louis, as one of the delegates from The Institution of Electrical Engineers of Great



ROBERT KAYE GRAY.

Britain, of which distinguished body he is the president. Mr. Gray has been closely identified with the submarine telegraph from the days when it passed from the stage of experiment to that of commercial and engineering development. His father, Mr. Matthew Gray (1821-1903), was long the managing director of the great Silvertown cable works, and it was here that the son received a thorough training in everything relating to submarine telegraphy, and became identified with the engineering side of the art. He was a pupil of Sir Charles Bright, with whom he went out in 1870 to lay the first West Indies cable. At this time, in addition to the office which he fills in the Silvertown company, Mr. Gray is chairman of the Spanish National Submarine Cable Co. and a director in several other companies owning and operating submarine cables. He has been president of the Electrical Engineers since March, 1903. The portrait presented herewith is used by the courtesy of the *Electrical World and Engineer*, of New York.



## NEW TRADE PUBLICATIONS.

**THE MERCHANTS RUBBER CO., LIMITED** (Berlin, Ontario), a new company, have issued their first catalogue and price list of Rubber Boots and Shoes, comprising an extensive line, which is satisfactorily illustrated and described. Prices are given. [ $3\frac{3}{4}'' \times 5\frac{1}{2}''$ . 64 pages.]

**THE DIAMOND RUBBER CO.** (Akron Ohio), issue a booklet of tasteful appearance, entitled "My Sentiments," being "a few pointed remarks" regarding their "Indian Red" and "Silver Leaf" brands of Steam Packing, emphasizing the durability of the same. [ $3\frac{3}{4}'' \times 6''$ . 12 pages.]—Also 4-page circulars each on Pump Valves and Mats and Matting.

**THE B. F. GOODRICH CO.** (Akron, Ohio) issue a strikingly novel brochure, described on the cover as a "Primer," being "A rhyme book on y<sup>e</sup> letters of y<sup>e</sup> Alphabet, containing also certain short Truths." The literary style is a modification of that of the "New England Primer" of the seventeenth century, while the illustrations are fully 213 years in advance of the art of that old classic. On the first page, under a suitable picture, we learn:

A is for Ape—  
A dissatisfied monk;  
If he rode *Palmer Tires*  
He'd have much more spunk.

And on every succeeding page is a similar combination of wit, wisdom—and tire truths. [ $6'' \times 10\frac{3}{4}''$ . 26 pages.]

**FABRIC FIRE HOSE CO.** (New York) issue a brochure entitled "Fire Engineers' Hand Book," including an account of fire hose weaving, the details of the wax and gum treatment to which this company's hose is subjected, tables of work done by and power required for fire streams and other like statistics, and useful hints on "First aid to the injured" in fire fighting forces. [ $7'' \times 6''$ . 46 pages.]

**JENKINS BROTHERS** (New York) issue a booklet, "Valve Troubles and How to Avoid Them," which seems likely to prove of much value to engineers and steam users. First are summarized the difficulties most commonly encountered in the installation and use of valves, with suggestions for their remedy. The remaining pages are devoted to descriptions of the Jenkins valves, now in such wide use that it is asserted that there are comparatively few steam plants in the United States where one or another of the various types is not to be found. [ $3\frac{1}{2}'' \times 6\frac{1}{2}''$ . 24 pages.]

## ALSO RECEIVED.

**MASON Regulator Co.**, Boston—Price List of Mason Reducing Valve *Parts*. July 15, 1904. 8 pages.

**Keasbey & Mattison Co.**, Ambler, Pennsylvania—Notes on Asbestos Packings and Gaskets. 36 pages.

**A. G. Spalding & Brothers**, New York.—Catalogue of Fall and Winter Sports. [With illustrations of a number of articles comprising rubber.] 96 pages.

**A. E. Gallien**, No. 12 West Thirty third street, New York.—Samson Leather Tire. 12 pages.

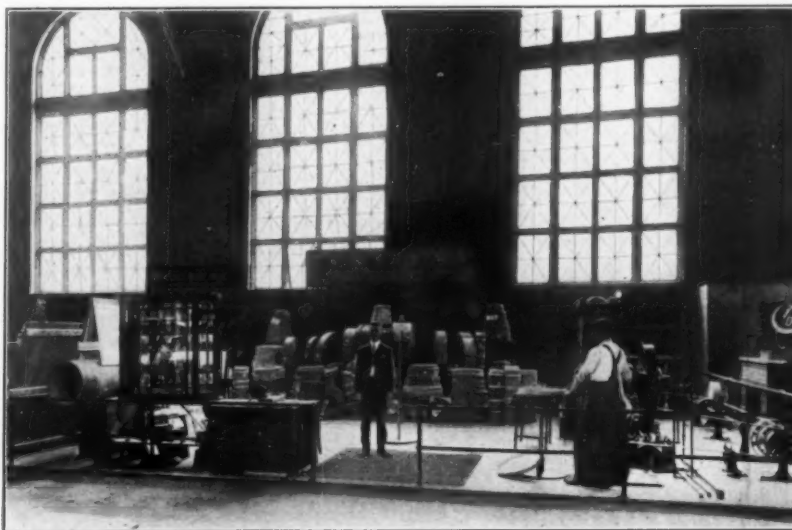
**Chicago Fire Hose Co.**, Chicago—Fire Hose and Apparatus. [The company market the fire hose product of the Cleveland works of the Mechanical Rubber Co.] 24 pages.

**Fibre Cushion Horse Shoe Co., Inc.**, New York.—[Prospectus of company.] 16 pages.

**LINEN HOSE IN THEATERS.**—The board of fire commissioners of Newark, New Jersey, have ordered that rubber lined hose be used in all theaters in that city, instead of linen hose, as heretofore. Much complaint has resulted, it being contended that linen hose meets every necessary requirement; that it is lighter in weight, and therefore more easily handled in case of a fire; that it can be stored in less space than rubber lined hose, and requires less care to keep it in good condition; and that rubber lined hose is more apt to deteriorate, in the warm temperature to which hose is exposed in theaters. The chief of the fire department of New York city, when called upon for an expression, wrote: "A large portion of the hose connected to standpipes in this city is linen hose, capable of standing a pressure of 300 pounds to the square inch, and which meets the requirements of this department." The Newark board, however, refused to rescind its order. Rubber lined hose has been used exclusively in the local fire department for years.

## THE VOORHEES RUBBER CO. AT ST. LOUIS.

**A**N interesting exhibit in Machinery Hall, at the St. Louis World's Fair, is that of the Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey). There is on exhibition in this display a full assortment of the mechanical rubber goods products of the Voorhees factory, including belting, hose, packings, and matting, all of which are arranged to make a most favorable impression. An unusual feature of the display is an installation of miniature rubber machinery, which has appealed to the interest of many visitors to the fair who have never seen any of the processes of working rubber. There are included, for example, a tubing machine, which turns out white and red tubing; a mill for warming up stock; a calender for making hose coverings; and a press with a die for turning out ink well stands, which are given away as souvenirs. The illustration herewith is based upon a photograph of the Voorhees exhibit, which is one of the most interesting—though not the largest—in the department of rubber goods at the fair. It is located in Block 34, Aisle 6, and is in charge of Mr. C. P. Capen, of the Capen Belting and Rubber Co. (St. Louis), who is the local representative of the Voorhees company.



VOORHEES RUBBER MANUFACTURING CO.'S DISPLAY.

## WIRELESS TELEGRAPHY ON THE AMAZON.

THE Amazon Wireless Telegraph and Telephone Co., with \$1,000,000 capital authorized, filed incorporation papers in the office of the secretary of state of Maine, January 26, 1904. The expressed object is to establish a wireless service between Pará and Manáos. The incorporators were J. Berry (president) and Lewis A. Burleigh (treasurer), both of Augusta, Maine; A. M. French, Winthrop, Maine; Charles R. Hebard, Brooklyn, New York; and Frederick Stewart, Montclair, New Jersey.

The *South American Journal* (London, August 13) says: "Experiments with a wireless telegraph system which have been quietly carried on between Manáos and Iquitos during the past few months have shown such satisfactory results that the cable company has bought the right to use the system between Pará and Manáos, and the manager of the Manáos office is now in Pará making final arrangements for installing the system. No other improvement is so important to the commercial interests of the Amazon valley as the instalment of a reliable telegraph service between Pará, Manáos, and upriver points."

## SHOES AND RUBBERS IN WHITE.

WHITE shoes have never been so much worn as they are this summer. All sorts and conditions of men, women and children, to say nothing of infants, have fallen in line on the white shoe. Boot makers and boot sellers say that they are doing a driving business in both canvas and doeskin shoes.

Just why the white shoe is so popular is hard to say. In canvas it is undeniably cool and easy on the feet, but in anything it is difficult to keep clean and looks out of place in city streets. Then it makes the foot look large, as does any shoe of light hue. But it is here to stay until the frost runs it to cover, if appearances count for anything.

One fashion always calls for another, so the white shoe has created a decided demand for white rubbers. These are easily obtainable at any large shoe store and cost little more than ordinary black rubbers. There was a time when one pair of black galoshes sufficed even the best dressed; but feet, as well as heads and hearts, have grown complex, and now the well groomed grownup or child must have white rubbers for white shoes, tan rubbers for tan shoes, gray rubbers for gray shoes

and black rubbers for black shoes.

Who knows? In a little while rubbers of rainbow hue may appear.—*New York Sun*.

## THE HARD RUBBER BOWLING BALL.

THE suggestion of the use of hard rubber for bowling balls is not entirely new. In THE INDIA RUBBER WORLD of March 15, 1892, the following paragraph appeared, on page 184:

"Hard rubber balls for use in bowling alleys are little known but have been used with good success. The surface is of hard rubber with combination filling. They are expensive and for ordinary use are no better than *lignum vitae*. In other words the ordinary flooring of an alley does not call for a high order of ball. The science of bowling has within the past few years received a decided impetus among the youth of the country, and the growing tastes of the wealthy class are calling for a better standard of alley. It is now proposed to build up-town in New York city, an alley of slate, and on this hard rubber balls will be used. One can almost imagine he was in dreamland or if he be not ethereal, on a greased slide, when he can send a highly polished rubber ball down the smooth plated surface of a bowling alley perfect in its level towards a goal bringing results entirely dependent and without variation upon his skill."

COULD NOT GET RUBBER NAILS.—A carpenter in Baltimore, whom a citizen sought to enjoin from working in his shop at 7 A. M. because it disturbed the latter's slumbers, filed a humorous answer. It says that as the defendant has not been able up to the present time to obtain rubber nails, hammers or rubber heels for shoes for his emloyéys that would prove satisfactory in working, there must be some slight noise accompanying the mechanical operation of driving nails, but not sufficient to disturb the nerves of a person in ordinary health and not supersensitive.

MR. N. H. WITT, of the important Manáos firm of Witt & Co., rubber merchants, arrived in New York recently via Europe, and will leave for his home by the next steamer for the Amazon.

—Mr. Henry H. Holland, manager of the European depot of the United States Rubber Co. (London), has been for some weeks on a visit to the company's headquarters on this side of the Atlantic, incidental to which he has also visited their principal factories.

## REVIEW OF THE CRUDE RUBBER MARKET.

THE feature of the month has been a general change in crude rubber values, the net decline in fine Pará sorts amounting to 7 or 8 cents per pound, with a less marked fall in coarse Pará's and Centrals and Africans. Since our last published report still lower quotations have been reported, so that the prices given to-day represent an advancing rather than a declining market. It may be pointed out that the fall in prices is not coincident with either largely increased receipts of rubber, or larger supplies in the markets. Indeed, the statistical position would not seem to warrant any particular decline in prices. These facts give color to reports current that present quotations are due to operations in the crude market meant to "bear" prices, which movement has been assisted by the tendency of consumers to refrain as far as possible from buying. What the effect upon prices will be when manufacturers are forced, a little later, to buy heavily, is

an interesting subject for conjecture, especially if the large yield on the Amazon, now confidently predicted in some quarters, should fail of realization. This subject, by the way, is treated fully on another page.

While the month's decline has been considerable, prices are still a trifle above those quoted a year ago, and then the market was considered very high. In introducing the market review published October 1, 1903, THE INDIA RUBBER WORLD said: "At the time of going to press with this issue crude rubber is selling at higher prices than at any time in the past history of the trade, with the single exception of a brief period in 1882 - - The advance has given rise in some quarters to conjectures that speculative trading is the cause. Such reports are always rife at such a time, but they are not always verified by subsequent developments." We may introduce here a comparative table of prices of a few leading grades during the

same month for three years past, showing a very heavy total advance, and it is not too much to say that such changes, as a result of speculation alone, would have been wholly impossible. The cause has been scarcity of rubber, compared with a steady demand. The comparative figures follow:

## NEW YORK RUBBER PRICES FOR AUGUST (NEW RUBBER).

	1904.	1903.	1902.
Upriver, fine.....	1.18@1.21	95@1.00	70 @76
Upriver, coarse.....	90@ 91	75@ 79	56 @61
Islands, fine.....	1.14@1.16	90@ 97	67 @73
Islands, coarse.....	65@ 67	59@ 61	45 @48
Cameta, coarse.....	65@ 66	58@ 61	46 @48½

At the large Antwerp sale on September 20 most of the rubber offered found buyers, at prices generally lower than at the preceding sale.

Receipts at Pará, including Caucho, from the beginning of the crop year (July 1) to September 28, amounted to 4005 tons. Receipts for the first three months of preceding crop seasons were as follows:

Tons	1900.	1901.	1902.	1903
.....	3430	4490	4330	4520

YEAR.	Pounds.	Value.	Av. Value.
1902.....	33,655,648	\$16,251,770	48.3 cts.
1903.....	38,655,119	23,495,420	60.7 cts.
1904.....	41,629,348	28,855,448	69.3 cts.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on September 30—the current date.

PARÁ.	Oct. 1, '03.	Sept. 1, '04.	Sept. 30.
Islands, fine, new.....	107@108	116@117	108@109
Islands, fine, old.....	112@113	none here	none here
Upriver, fine, new.....	110@111	120@121	110@112
Upriver, fine, old.....	112@113	122@123	112@114
Islands, coarse, new.....	68@ 69	66@ 67	60@ 62
Islands, coarse, old.....	@	none here	none here
Upriver, coarse, new.....	88@ 89	91@ 92	86@ 87
Upriver, coarse, old.....	@	none here	none here
Caucho (Peruvian) sheet.....	69@ 70	68@ 69	67@ 68
Caucho (Peruvian) ball.....	78@ 79	77@ 78	76@ 77

The market for other sorts in New York, the decline in which has been less marked, is as follows:

AFRICAN.	CENTRALS.
Sierra Leone, 1st quality 91 @92	Esmeralda, sausage...76 @77
Massai, red.....91 @92	Guayaquil, strip.....62 @63
Benguella.....70 @71	Nicaragua, scrap...74 @75
Cameroon ball.....62 @63	Panama, slab.....57 @58
Accra flake.....33 @34	Mexican, scrap.....72 @73
Lopori ball, prime.....93 @94	Mexican, slab.....57 @58
Lopori strip, prime.....87 @88	Mangabeira, sheet.....47 @56
Ikelemba.....94 @95	EAST INDIAN.
Madagascar, pinky...78 @79	Assam.....87 @88
	Borneo.....@

## Late Pará cables quote:

	Per Kilo.	Per Kilo.
Islands, fine.....	6\$600	Upriver, fine..... 7\$200
Islands, coarse.....	3\$200	Upriver, coarse..... 4\$900

Exchange, 12¼d.

## Last Manáos advices:

Upriver, fine.....	7\$250	Upriver, coarse.....	4\$650
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Exchange, 12½d.

## Bordeaux.

## IMPORTS OF RUBBER—JANUARY TO JUNE.

MONTHS.	1903.	1904.
January.....	66,864	54,550
February.....	95,007	169,025
March.....	119,582	94,615
April.....	97,641	131,560
May.....	104,098	91,125
June.....	63,473	65,060
Total.....	546,765	595,935

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York), advises us:

"During the first half of September the money market continued easy, the same as for the three months previous, rubber paper being taken at 4¼ @ 5½ per cent. according to grade, but during the latter half of the month the market advanced a little, 5 @ 6 per cent. being the ruling rates."

## Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			
	Fine and Medium.	Coarse.	1904.	Total 1903.
* Stocks, July 30.....	115	9 =	124	224
Arrivals, August.....	542	275 =	817	667
Aggregating.....	657	284 =	941	891
Deliveries, August.....	572	276 =	848	723
Stocks, August 31....	85	8 =	93	168

	PARÁ.			
	1904.	1903.	1902.	Total 1903.
Stocks, July 30.....	315	135	40	435
Arrivals, August.....	1200	1110	1380	365
Aggregating.....	1515	1245	1420	800
Deliveries, August....	1155	1125	1323	600
Stocks, Aug. 31..	360	120	97	200

	1904.	1903.	1902.
World's visible supply, August 31.....	1152	1737	2746
Pará receipts, July 1 to August 31.....	2210	2160	2367
Pará receipts of Caucho, same dates.....	280	300	323
Afloat from Pará to United States, August 31	86	364	418
Afloat from Pará to Europe, August 31.....	413	435	468

[\* Corrected figures.]

## Liverpool.

WILLIAM WRIGHT & Co., report (September 1):

*Fine Pará.*—The scarcity of stocks and the small receipts during the early part of the month in Pará caused prices to still further advance. The record price of 5s. 2½d. was paid for Upriver, and 5s. 1d. for Islands fine. At the close there are welcome signs of a break, closing with sellers on spot of Upriver 5s., and Islands 4s. 11d. There has been a fair spot demand, but mostly owing to American orders and covering. Forward business has been fairly active, the distant position being sold at considerable discount—August–September 4s. 11d. @ 5s. c¼d.; September–October 4s. 10d. @ 4s. 10¼d.; October–November 4s. 10d. @ 4s. 9½d.; November–December 4s. 9d. @ 4s. 7¼d.

## Ceylon Rubber.

EXPORTS OF cultivated rubber, mostly Pará variety, from Ceylon, from January 1 to August 22, 1904:

To Great Britain.....	pounds 37,633
" Germany.....	3,612
" Australia.....	332
" Belgium.....	111
" United States.....	63
" Holland.....	15

Total, eight months..... 41,766  
Total, same months of 1903..... 26,463

## Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots, in cents per pound—show a slight advance since the first of September, on old rubber boots and shoes:

Old Rubber Boots and Shoes—Domestic.....	5¼ @ 5½
Do —Foreign.....	4¾ @ 4¾
Pneumatic Bicycle Tires.....	3½ @ 4
Solid Rubber Wagon and Carriage Tires.....	6
White Trimmed Rubber.....	8½ @ 8¾
Heavy Black Rubber.....	4
Air Brake Hose.....	2¼ @ 2½
Fire and Large Hose.....	1¾ @ 1¾
Garden Hose.....	1¾ @ 1¾
Matting.....	¾ @ 1



## London.

EDWARD TILL &amp; Co. [September 1] report stocks:

	1904.	1903.	1902.
LONDON			
Pará sorts.....	—	—	—
Borneo.....	60	28	128
Assam and Rangoon.....	10	8	11
Other sorts.....	378	202	396
Total.....	448	238	535
LIVERPOOL			
Pará.....	199	650	1532
Caucho.....	229	222	203
Other sorts.....	632	254	461
Total, United Kingdom.....	1508	1364	2731
Total, August 1.....	1764	1781	3053
Total, July 1.....	1920	2285	3595
Total, June 1.....	1667	2248	3687
Total, May 1.....	1644	2539	3788
Total, April 1.....	1367	2525	3326

## PRICES PAID DURING AUGUST.

	1904.	1903.	1902.
Pará fine, hard..	5/ @ 5/ 2 3/4 4/ 1 @ 4/ 3 3/ 0 1/4 @ 3/ 3		
Do soft.....	4/10 1/2 @ 5/ 1 1/2 3/11 @ 4/ 2 1/2 2/10 1/2 @ 3/ 1 1/2		
Negroheads, scrappy	3/10 @ 3/11 3/ 2 @ 3/ 3 1/2 2/ 3 1/2 @ 2/ 6		
Do Cameté.....	8 1/2 @ 2/10 1/2 2/ 6 1/2 @ 2/ 6 1/2 1/11 1/2 @ 2/ 0 1/4		
Bolivian.....	5/ @ 5/ 2 1/2 4/ 2 1/2 @ 4/ 3 1/2 3/ 0 1/4 @ 3/ 3		
Caucho ball.....	3/ 5 @ 3/ 6 3/ 0 1/4 @ 3/ 3 2/ 4 @ 2/ 5 1/4		
Do slab.....	2/10 1/2 @ 2/11 2/ 7 @ 2/ 7 1/2 1/11 1/2 @ 2/ 1		

SEPTEMBER 16.—The market for Pará sorts for a week past has been weak and declining, with a firmer tendency at the close. Business has been on a small scale, including fine hard Pará, Spot and September delivery, at 4s. 9d. @ 4s. 10d. and buyers; October 4s. 7d. @ 4s. 9 1/4 d.; November 4s. 6 1/2 d. @ 4s. 8d.; December 4s. 5 1/2 d.

Medium kinds in auction to-day were in moderate request and a small part sold at easier prices. Colombian: Good, clean, brown scrap 3s. 5d.; weak, softish white scrap 2s. 7d. Central American: Fair brown scrap and roll 3s. 2 1/4 d. @ 3s. 3 1/4 d. Madagascar: Fair to good pinky 3s. 3 1/4 d. @ 3s. 4 1/4 d.; soft, gummy ball 1s. 9d. Assam: Fair red No. 1 sold at 3s. 6 1/4 d.; mixed heated and dirty 1s. 10 1/4 d.

Ceylon and Straits: Twenty-nine packages offered and 20 sold. Fine, thin, Ceylon biscuits at 5s. 2d. @ 5s. 3 1/4 d.; ditto, darker, 5s. 1d.; scrap 4s. 3d. @ 4s. 3 1/4 d. Straits, fine, dark, thin biscuit, rather moldy, 5s. 2d.; good scrap at 4s. 3 1/4 d.

## Guatemala.

EXPORTS of rubber during 1903, according to a Belgian official source, were:

	1903.	1902.
To United States.....	153,100	
" Great Britain.....	23,400	
" Germany.....	210,600	
" France.....	44,100	
" Belgium.....	11,100	
Total, 1903.....	442,300	
Total, 1902.....	254,100	

## Rubber Receipts at Manaos.

DURING August and two months of the crop season for three years [courtesy of Messrs. Witt & Co.]:

From—	1904.	1903.	1902.	1904.	1903.	1902.
Rio Purús—Acre.....	361	294	324	506	457	497
Rio Madeira.....	330	240	283	479	492	546
Rio Juruá.....	—	—	1	35	2	4
Rio Javary—Iquitos.....	188	100	86	213	114	100
Rio Solimões.....	6	15	42	10	25	49
Rio Negro.....	—	3	4	—	15	21
Total.....	885	652	740	1233	1105	1217
Caucho.....	79	47	51	178	208	216
Total.....	964	699	791	1411	1313	1433

## Para.

KANTHACK &amp; Co. report [September 1]:

With an active demand prices had continued to improve, but they had seemingly been pushed up too rapidly and buyers became more reserved,

modifying their prices. During the last few days the news of a considerable drop at the consuming markets caused a rapid decline here of about 2 1/2 pence from the highest point. Receipts have remained normal, perhaps to the disappointment of those who expected an early increase, from the large influx of laborers coming from the southern famine stricken states. New hands, however, are of little value, until they have thoroughly mastered the work and become used to forest life.

## Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: On September 2 a small sale by inscription took place, but out of 16 tons offered only 5 tons found buyers, at prices as follows:

	Estimation.	Sold at.
Congo Alima.....	francs 11.00	10.90
Congo Lobay.....	10.50	10.57 1/2
Congo Ibenga.....	9.50	9.50

Besides this unimportant sale no transactions worth mentioning have taken place, pending the large sale scheduled for September 20, in which 515 tons, mostly Congo sorts will be exposed.

C. SCHMID &amp; CO., SUCCESEURS.

Antwerp, September 16, 1904.

## ANTWERP RUBBER STATISTICS FOR AUGUST.

DETAILS.	1904.	1903.	1902.	1901.	1900.
Stocks, July 30.....	872,746	377,527	689,772	1,047,441	1,133,702
Arrivals in August.....	244,704	347,062	321,192	286,816	498,188
Congo sorts .....	221,665	322,136	294,073	267,939	385,738
Other sorts .....	23,039	24,926	27,119	18,877	112,450
Aggregating.....	1,117,450	724,589	1,010,964	1,327,257	1,631,890
Sales in August.....	514,955	404,603	254,563	642,902	575,766
Stocks, August 31.....	602,495	319,986	756,401	684,355	1,056,124
Arrivals since Jan. 1.....	3,709,621	3,336,394	3,558,836	3,838,870	4,167,418
Congo sorts .....	3,669,256	3,271,328	3,295,540	3,511,496	3,906,913
Other sorts .....	640,365	355,066	263,296	327,374	660,505
Sales since Jan. 1.....	3,718,026	3,664,513	3,217,144	3,768,464	3,403,285

## RUBBER ARRIVALS AT ANTWERP.

SEPT. 6.—By the *Philippeville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine)	kilos	164,000
Do .....	(Société Isangi)		17,000
Do .....	(Chemins de fer des Grand Lacs)		20,000
Do .....	(Société Anversoise)		50,000
Comptoir Commercial Congolais.....			17,000
M. S. Cols.....	(Cie. Bruxelloise pour le commerce du Haut Congo)		2,000
M. S. Cols.....	(Alima)		1,000
Société Coloniale Anversoise.....	(Cie. du Kasai)		53,000
Do .....	(Sud Kamerun)		4,000
Do .....	(Cie. de Lomami)		12,000
Do .....	(Belge du Haut Congo)		2,000
Société Générale de Commerce.....	(Alimalenne)		4,000
Charles Dethier.....	(La M'Poko)		25,000
Do .....	(La Haut Sangha)		1,000
Comptoir des Produits Coloniaux.....	(Ekela Sangha)		10,000
Do .....	(Cie. de la N'Goko)		3,000
Do .....	(Cie. Générale d'Extraction)		2,000
.....			387,000

## The Gutta-Percha Market.

THE *Gummi-Zeitung* (Dresden) of September 9 reports: A foreign subscriber, who is intimately acquainted with the existing conditions, writes: "The condition of the Gutta-percha market is such as has not been experienced in a long time. The abnormally high prices of Gutta-percha for the past years have been followed by a depression which was not thought possible by even the worst pessimists. A direct result of these low prices is the materially increased export of Borneo rubber, the Gutta-percha gatherers not being able to balance their accounts. The generally poor condition of the produce market compels the natives to gather, naturally, only the best paying forest products, in which Gutta-percha cannot be included, the exploitation of this stuff being extremely difficult and depend-

ing on certain conditions, so that the natives prefer the gathering of any other product. The receipts are very small, as well as the stocks on hand, leaving but little choice to buyers. For the near future no animation in the Gutta-percha market can be looked for, there being no extensive cable projects, at present on hand, according to reports from Europe."

## IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

September 3.—By the steamer *Bernard*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	43,300	1,500	56,700	.....	101,500
Poel & Arnold.....	6,000	700	28,500	1,400=	36,600
A. T. Morse & Co.....	1,700	200	32,000	.. =	33,900
Lionel Hageners & Co..	10,000	.....	2,000	.....	12,000
Total.....	61,000	2,400	119,200	1,400=	184,000

September 15.—By the steamer *Cearense*, from Manáos and Pará:  
 New York Commercial Co. 185,100 31,300 44,100 .....= 260,500

## PARA RUBBER VIA EUROPE.

AUG. 29.—By the *Umbria*=Liverpool:

New York Commercial Co. (Fine)..... 39,000  
 A. T. Morse & Co. (Coarse)..... 4,500 43,500

AUG. 29.—By the *Kronland*=Antwerp:

New York Commercial Co. (Fine)..... 45,000

SEPT. 1.—By the *Baltic*=Liverpool:

A. T. Morse & Co. (Fine)..... 11,500

SEPT. 3.—By the *Campania*=Liverpool:

George A. Alden & Co. (Fine)..... 28,000

SEPT. 6.—By the *Zeeland*=Antwerp:

New York Commercial Co. (Fine)..... 23,000

SEPT. 12.—By the *Etruria*=Liverpool:

New York Commercial Co. (Fine)..... 22,500

A. T. Morse & Co. (Coarse)..... 1,500

Wallace L. Gough (Coarse)..... 3,500 27,500

SEPT. 21.—By the *Vaderland*=Antwerp:

Poel & Arnold (Fine)..... 21,500

Poel & Arnold (Coarse)..... 3,000 25,500

## OTHER ARRIVALS IN NEW YORK

## CENTRALS.

AUG. 28.—By the *El Dia*=New Orleans:

A. T. Morse & Co..... 7,000

A. N. Rotholz..... 2,000

Manhattan Rubber Mfg. Co..... 2,300 11,300

AUG. 29.—By the *Vigilante*=Mexico:

E. Steiger & Co..... 2,500

H. Marquardt & Co..... 2,500

Harburger & Stack..... 2,500

American Trading Co..... 2,500

Samuels & Cummings..... 300 9,800

AUG. 31.—By the *Seguranea*=Colon:

Hirzel, Feltman & Co..... 16,500

G. Amsinck & Co..... 11,400

J. A. Medina & Co..... 7,400

Harburger & Stack..... 3,600

Isaac Brandon & Bros..... 1,600

Meyer Hecht..... 1,100

Eggers & Heinlein..... 1,000

W. Loalza & Co..... 500 43,100

SEPT. 2.—By the *Tintoretto*=Bahia:

J. H. Rossbach & Bros..... 17,000

Hirsch & Kaiser..... 16,000 33,000

SEPT. 2.—By the *El Cid*=New Orleans:

Manhattan Rubber Mfg. Co..... 9,000

A. T. Morse & Co..... 1,000 10,000

SEPT. 6.—By the *Sibiria*=Cartagena, etc.:

Banco de Exportos..... 2,200

Najeeb, Mullak Co..... 2,000

Isaac Kubie & Co..... 2,000

Louis Wolff..... 1,000

Mecke & Co..... 500

Isaac Brandon & Bros..... 700 8,400

SEPT. 7.—By the *Alfamea*=Colon:

Hirzel, Feltman & Co..... 16,200

Harburger & Stack..... 1,900

American Trading Co..... 1,600

Meyer Hecht..... 1,600

A. Rosenthal Sons..... 1,500

Mecke & Co..... 700

Eggers & Heinlein..... 700

A. T. Morse & Co.....	47,300	5,500	59,200	.....=	112,000
Poel & Arnold.....	36,600	6,400	50,800	700=	94,500
General Rubber Co.....	.....	.....	21,400	.....=	21,400
Hagemeyer & Brunn.....	7,000	.....	3,500	.....=	10,500
Lionel Hageners & Co..	7,700	.....	2,200	.....=	9,900
Edmund Recks & Co....	3,500	.....	3,500	.....=	7,000

Total ..... 287,200 43,200 184,700 700= 515,800

September 24.—By the steamer *Hubert*, from Manáos and Pará:

A. T. Morse & Co.....	112,800	16,800	109,900	300=	239,800
New York Commercial Co.	59,900	20,000	84,700	1,800=	166,400
Poel & Arnold.....	78,800	16,800	37,400	7,500=	140,500
General Rubber Co....	49,000	11,300	9,700	.....=	70,000
Robinson & Tallman...	21,500	4,700	2,900	.....=	29,100
Lionel Hageners & Co..	16,000	4,700	3,600	.....=	24,300
Hagemeyer & Brunn....	13,300	2,400	3,700	.....=	19,400
G. Amsinck & Co. ....	7,900	.....	3,500	.....=	11,400

Total .. 359,200 76,700 255,400 9,600= 700,900

[NOTE.—The steamer *Dunstan*, from Pará, is due at New York on October 4, with 310 tons Rubber.]

## CENTRALS—Continued.

G. Amsinck & Co.....	700
Smithers, Nordenholt & Co.....	600
Jimenez & Escobar.....	400
J. A. Medina & Co.....	400 26,300

SEPT. 10.—By the *Monterey*=Mexico:

Harburger & Stack..... 2,000

E. N. Tibbals & Co..... 200

Graham, Hinkley & Co..... 200

American Trading Co..... 300

H. W. Peabody & Co..... 800 3,200

SEPT. 12.—By the *Germanic*=Liverpool:

J. H. Rossbach & Bros..... 25,000

SEPT. 12.—By the *Cedrie*=Liverpool:

J. H. Rossbach & Bros..... 25,000

Lawrence Johnson & Co..... 5,000 30,000

SEPT. 12.—By the *Proteus*=New Orleans:

A. T. Morse & Co..... 2,500

G. Amsinck & Co..... 500 3,000

SEPT. 13.—By the *Cevic*=Liverpool:

J. H. Rossbach & Bros..... 22,000

Lawrence Johnson & Co..... 7,000 29,000

SEPT. 14.—By the *Financia*=Colon:

Hirzel, Feltman & Co..... 19,700

Geo. A. Alden & Co..... 6,800

A. Santos & Co..... 6,100

G. Amsinck & Co..... 5,500

Lawrence Johnson & Co..... 2,100

Harburger & Stack..... 2,200

Isaac Brandon & Bros..... 1,000

J. A. Medina & Co..... 1,400

A. M. Capen Sons..... 900

Dumarest Bros. & Co..... 900

Smithers, Nordenholt & Co..... 600

E. B. Strout..... 500

Meyer & Hecht..... 500

Lanman & Kemp..... 400

Neuss Hesslein & Co..... 300

Silva, Bussenius & Co..... 400

Kunhardt & Co..... 200 49,300

SEPT. 14.—By the *Cameous*=Bahia:

J. H. Rossbach & Bros..... 31,500

SEPT. 16.—By the *El Norte*=New Orleans:

G. Amsinck & Co..... 3,000

A. T. Morse & Co..... 2,500

Manhattan Rubber Mfg. Co..... 1,000 6,500

SEPT. 15.—By the *Aurania*=Liverpool:

Geo. A. Alden & Co..... 3,500

SEPT. 17.—By the *Esperanza*=Mexico:

H. Marquardt & Co..... 2,000

E. Steiger & Co..... 1,000

Harburger & Stack..... 700

L. N. Chemedit & Co..... 500

Graham, Hinkley & Co..... 500 4,700

SEPT. 20.—By the *Advance*=Colon:

Lawrence Johnson & Co..... 11,200

Hirzel, Feltman & Co..... 8,200

E. B. Strout..... 3,000

Isaac Brandon & Bros..... 1,400

A. Rosenthal & Sons..... 1,100

Cadenas & Co..... 1,000

Suzarte & Whitney..... 300

H. Marquardt & Co..... 100 25,300

SEPT. 20.—By the *Sarnia*=Cartagena:

Najeeb, Mullak Co..... 3,000

Isaac Brandon & Bros..... 2,100

D. A. De Lima & Co..... 1,500

## CENTRALS—Continued.

Lawrence Johnson & Co.....	1,000
Graham, Hinkley & Co.....	1,000
G. Amsinck & Co.....	800
Isaac Kubie & Co.....	500
Kunhardt & Co.....	500
C. Wessels & Co.....	400 10,800

SEPT. 21.—By the *Tennyson*=Pernambuco:

A. D. Hitch & Co..... 7,000

Lawrence Johnson & Co..... 2,000 9,000

## AFRICANS.

AUG. 25.—By the *Teutonic*=Liverpool:

Poel & Arnold..... 44,000

Earle Brothers..... 2,000 46,000

AUG. 25.—By the *Graf Waldersee*=Hamburg:

A. T. Morse & Co..... 27,000

George A. Alden & Co..... 11,000

Poel & Arnold..... 4,000 42,000

AUG. 29.—By the *Umbria*=Liverpool:

A. T. Morse & Co..... 20,000

AUG. 29.—By the *Celtic*=Liverpool:

Poel & Arnold..... 34,000

Henry A. Gould Co..... 4,000 38,000

AUG. 29.—By the *Kronland*=Antwerp:

Poel & Arnold..... 125,000

A. T. Morse & Co..... 90,000

Robinson & Tallman..... 18,000

Joseph Cantor..... 15,000

Winter & Smillie..... 15,000 263,000

AUG. 29.—By the *Rotterdam*=Rotterdam:

Poel & Arnold..... 11,000

SEPT. 3.—By the *Campania*=Liverpool:

George A. Alden & Co..... 22,500

A. T. Morse..... 11,500

Poel & Arnold..... 8,000

Rubber Trading Co..... 3,000 42,000

SEPT. 6.—By the *Zeeland*=Antwerp:

George A. Alden & Co..... 138,000

SEPT. 6.—By the *Victorian*=Liverpool:

George A. Alden & Co..... 80,000

SEPT. 7.—By the *Pennsylvania*=Hamburg:

Poel & Arnold..... 27,000

George A. Alden & Co..... 8,500

Rubber Trading Co..... 6,000 41,500

SEPT. 8.—By the *Majestic*=Liverpool:

General Rubber Co..... 23,000

Poel & Arnold..... 11,500

A. T. Morse & Co..... 2,000 36,500

SEPT. 12.—By the *Etruria*=Liverpool:

George A. Alden & Co..... 23,000

Henry A. Gould Co..... 3,000

Poel & Arnold..... 2,000 28,000

SEPT. 13.—By the *Finland*=Antwerp:

Winter & Smillie..... 6,500

SEPT. 19.—By the *Arabic*=Liverpool:

Poel & Arnold..... 22,500

Wallace L. Gough..... 1,000

Henry A. Gould Co..... 5,000

A. T. Morse & Co..... 3,000 31,500

SEPT. 22.—By the *Peninsular*=Lisbon:

General Rubber Co..... 56,000

## EAST INDIAN.

	POUNDS.
SEPT. 6.—By the <i>Seneca</i> =Singapore:	
Pierre T. Betts.....	19,000
D. P. Cruikshank.....	2,500 21,500
SEPT. 12.—By the <i>Germanic</i> =Liverpool:	
A. T. Morse & Co.....	5,000
SEPT. 13.—By the <i>Mesaba</i> =London:	
Windmuller & Reolker.....	5,000
Wallace L. Gough.....	3,500 8,500
SEPT. 19.—By the <i>Jesserie</i> =Singapore:	
Poel & Arnold.....	14,000
Robinson & Tallman.....	11,500 25,500
SEPT. 19.—By the <i>New York</i> =London:	
Poel & Arnold.....	13,500
George A. Alden & Co.....	2,500 16,000
SEPT. 19.—By the <i>Indrasamha</i> =Calcutta:	
George A. Alden & Co.....	5,000
SEPT. 19.—By the <i>Richmond Castle</i> =Singapore:	
George A. Alden & Co.....	30,000
Pierre T. Betts.....	40,000
Robinson & Tallman.....	10,000 80,000

## PONTIANAK.

SEPT. 6.—By the <i>Seneca</i> =Singapore:	
Winter & Smille.....	110,000
Robinson & Tallman.....	80,000
George A. Alden & Co.....	85,000 265,000
SEPT. 12.—By the <i>Jesserie</i> =Singapore:	
Poel & Arnold.....	450,000
Robert Brann & Co.....	125,000
George A. Alden & Co.....	55,000 630,000
SEPT. 19.—By the <i>Richmond Castle</i> =Singapore:	
George A. Alden & Co.....	875,000
J. H. Recknagel & Son.....	50,000
Poel & Arnold.....	55,000
Robinson & Tallman.....	90,000
Haebler & Co.....	34,000 1,104,000

## GUTTA-PERCHA AND BALATA

	POUNDS.
SEPT. 6.—By the <i>Seneca</i> =Singapore:	
Winter & Smille.....	13,500
SEPT. 13.—By the <i>Columbia</i> =Glasgow:	
Kempshall Manufacturing Co.....	2,200
SEPT. 19.—By the <i>Richard Castle</i> =Singapore:	
Windmuller & Reolker.....	3,500
BALATA.	
AUG. 26.—By the <i>Estrua</i> =Demerara:	
George A. Alden & Co.....	6,500
AUG. 29.—By the <i>Minnehaha</i> =London:	
Earle Brothers.....	2,500
SEPT. 6.—By the <i>Grenada</i> =Trinidad:	
Frame & Co.....	6,000
SEPT. 13.—By the <i>Korona</i> =Demerara, etc.:	
Charles P. Shilstone.....	2,500
Frame & Co.....	1,500
Middleton & Co.....	1,000
Thebaud Brothers.....	1,000 6,000
SEPT. 19.—By the <i>New York</i> =London:	
Earle Brothers.....	2,500
SEPT. 19.—By the <i>Maracas</i> =Ciudad Bolivar:	
Frame & Co.....	3,000
Middleton & Co.....	2,500 5,500
SEPT. 19.—By the <i>Parina</i> =Demerara:	
Middleton & Co.....	5,500

## CUSTOM HOUSE STATISTICS.

## PORT OF NEW YORK—AUGUST.

	POUNDS.	VALUE.
Imports:		
India-rubber.....	3,783,199	\$2,762,936
Gutta-percha.....	31,153	17,282
Gutta-jelutong (Pontianak).....	1,492,144	49,071
Total.....	5,316,496	\$2,829,289

## Exports:

India-rubber.....	38,250	\$41,306
Reclaimed rubber.....	142,919	19,433
Rubber Scrap Imported.....	623,523	\$29,937

## BOSTON ARRIVALS.

	POUNDS.
AUG. 2.—By the <i>Michigan</i> =Liverpool:	
Poel & Arnold—African.....	1,868
AUG. 3.—By the <i>Famion</i> =Tampico:	
George A. Alden & Co.—Central.....	218
AUG. 8.—By the <i>Republic</i> =Liverpool:	
Poel & Arnold—African.....	31,644
AUG. 15.—By the <i>Oakmore</i> =Antwerp:	
George A. Alden & Co.—African.....	2,348
AUG. 15.—By the <i>Anglian</i> =London:	
Poel & Arnold—Gutta-percha.....	8,852
AUG. 18.—By the <i>Sachem</i> =Liverpool:	
Poel & Arnold—African.....	24,746
AUG. 17.—By the <i>Anglian</i> =London:	
George A. Alden & Co.—East Indian.....	762
AUG. 18.—By the <i>Bohemian</i> =Liverpool:	
George A. Alden & Co.—Fine Pará.....	11,300
George A. Alden & Co.—African.....	4,066 15,286
AUG. 22.—By the <i>Pontos</i> =Hamburg:	
Poel & Arnold—African.....	3,456
AUG. 29.—By the <i>Sagamore</i> =Liverpool:	
Poel & Arnold—African.....	2,206
AUG. 30.—By the <i>Cambrin</i> =London:	
George A. Alden & Co.—East Indian.....	672
AUG. 31.—By the <i>Assyria</i> =Hamburg:	
George A. Alden & Co.—East Indian.....	13,184
George A. Alden & Co.—African.....	3,000 16,184
Total.....	108,282

[Value, \$62,208.]

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (POUNDS).

## UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1904.....	3,197,909	218,738	2,979,171
January-June.....	34,491,123	1,760,986	32,730,137
Seven months, 1904.....	37,689,032	1,979,724	35,709,308
Seven months, 1903.....	35,539,720	1,751,513	33,788,207
Seven months, 1902.....	30,308,134	2,102,630	28,205,504

## GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1904.....	3,526,920	615,120	1,911,800
January-June.....	18,294,760	5,233,580	13,061,180
Seven months, 1904.....	20,821,680	5,848,700	14,972,980
Seven months, 1903.....	21,163,560	7,211,160	13,952,400
Seven months, 1902.....	19,546,780	7,583,180	11,963,600

## FRANCE.\*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1904.....			
January-June.....			
Seven months, 1904.....	12,802,680	7,388,260	5,414,420
Seven months, 1903.....	9,651,840	5,300,020	4,351,720
Seven months, 1902.....	10,013,520	4,917,660	5,095,860

## BELGIUM.†

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1904.....	921,558	1,139,519	[‡ 217,961]
January-March.....	5,109,984	4,014,579	1,095,405
Four months, 1904.....	6,031,542	5,154,098	877,444
Four months, 1903.....	5,379,251	3,908,302	1,470,949
Four months, 1902.....	5,285,907	3,196,980	2,088,927

## GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1904.....	4,082,176	1,904,224	2,177,952
January-June.....	30,909,872	17,549,062	13,360,810
Seven months, 1904.....	34,992,048	19,453,286	15,538,762
Seven months, 1903.....	32,200,112	23,013,872	9,186,240
Seven months, 1902.....	29,076,096	17,790,528	11,285,568

## ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1904.....	59,400	21,340	38,060
January-June.....	841,720	52,140	789,580
Seven months, 1904.....	901,120	73,480	827,640
Seven months, 1903.....	1,021,240	100,760	920,480
Seven months, 1902.....	870,760	80,960	789,800

## AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1904.....	215,820	4,400	211,420
January-June.....	1,541,320	10,340	1,530,980
Seven months, 1904.....	1,757,140	14,740	1,742,400
Seven months, 1903.....	1,723,480	16,720	1,706,760
Seven months, 1902.....	1,600,280	10,780	1,589,500

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

\*General Commerce.

†Special Commerce.

‡Net Exports.



